INPUT

VENDOR ANALYSIS PROGRAM

DICK LEONARD
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COMPANY HIGHLIGHT

BOWNE INFORMATION SYSTEMS, INC.
160 Water Street
New York, NY 10038
(212) 952-4400

William B. Mahony, President
Subsidiary of Bowne & Company, Inc.
Employees: 250
Total Revenues, Fiscal Year End
10/31/79: $11,648,000

COMPANY BACKGROUND

- Bowne Information Systems, Inc. (BIS) was formed in 1969 by its parent, Bowne & Company, to provide automated services in connection with the parent's financial printing activities. BIS developed its original approach to the marketplace by being one of the pioneers in the offering of word processing as an on-line, remote computing service.

- In addition to processing services, BIS sells its software separately, operates several word processing service centers, and is currently developing a distributed processing capability. The majority of BIS's services are directed toward office automation.

- BIS has averaged a 22% compounded growth rate over the last five years. FY 1979 revenues were $11.5 million, up 14% over FY 1978's $10.2 million. Pretax profit margins decreased significantly in 1979. From a pretax income of $1.3 million in FY 1978 (13%), FY 1979 earnings were reported at a record low of $46,000, or less than 1%.

 - Management attributes the decline to increased costs for expanding Cyberway offices to five additional cities, increased development and marketing expenses, and a general gearing up for a higher level of business than it could obtain.

 - A five-year financial summary follows:

BIS
FIVE-YEAR FINANCIAL SUMMARY
(FYE 10/31, $ Thousands)

ITEM \ FISCAL YEAR	1979	1978	1977	1976	1975
Total revenue	$11,648	$10,240	$8,310	$ 7,665	$ 5,335
Income before taxes	$ 46	$ 1,314	$ 595	$ 716	$ 586

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- The majority of BIS's growth has come from internal development. The company made one acquisition in 1978, Integrated Word Processing Inc., which provided word processing services in the New York area.

- BIS's 250 employees are segmented as follows:

- Marketing/sales	122
- Computer operations and programming	60
- General and administrative	20
- Word processing	48
	250

- BIS's primary competitor is Proprietary Computer Systems.

KEY PRODUCTS AND SERVICES

- Approximately 95% of BIS's revenues are derived from remote computing and word processing services, and 5% from software product sales.

- BIS has concentrated its efforts in the development of products to expand the capabilities of traditional word processing functions. To accomplish this, it has in place:

 - Word/One, an interactive text processing system.

 - Records Management, an interactive retrieval system used to search and locate information processed by Word/One.

 - Electronic Mail, available to both terminal and word processor users.

 - Photocomposition services for typesetting documents.

- A key announcement in BIS's strategy to provide office automation services was its "Bowne Connection" compatibility program, announced in 1979. Through this program, Bowne developed the necessary communications software to connect standalone word processors to its central processor.

 - Word processors such as Lanier, Xerox, IBM, Lexitron, CPT and Vydec can now be connected directly and Bowne plans to develop communication links to all major word processing devices.

- Also in 1979, BIS formed the Cyberway Division and opened five word processing service bureau operations.

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- Cyberway's predominate business is to provide services for the preparation, storage, accessing, duplication and dissemination of documents through a variety of methods such as computer terminals, typesetting machines, computers, facsimile devices and couriers.

- Customers are in law, accounting, finance, architecture and engineering, employed by both industry and government.

- Probably Bowne's most significant new market venture will be its distributed text processing offering.

 - The company is currently developing its Word/One software for implementation on an IBM 4300. Additional software on the 4300 will be editing modules, the Records Management System and an electronic mail system. Access to photocomposition services will be through the Bowne network.

 - For 20 workstations, the system will lease for about $8,000 per month. A 60-workstation system will range between $10,000 and $15,000 per month, at a cost of about $200 for each workstation.

 - The first system is expected to be operational by the last quarter of 1980.

- New types of software are being introduced that will allow Bowne to penetrate deeper into vertical markets that require extensive word processing capabilities. Examples are:

 - KeySearch, a file management system that enables attorneys to organize and retrieve documents in conjunction with major litigation.

 - COMSPEC®, a computer-assisted specification preparation service used by architects, engineering firms and government agencies to prepare and edit complex construction specifications. The master specification libraries available through COMSPEC include:

 . SPECTEXT® - the CSRF Master Guide covering Divisions 1-16 as defined by the Construction Specifications Institute. SPECTEXT has recently been made available on diskettes for users of Lanier "No Problem Typewriters."

 . SOGS - U. S. Corps of Engineers master for Middle East (Saudi Arabian) construction projects.

 . NAVFAC - U.S. Naval Facilities Master.

 . FAA Master Specification Library - used by the Federal Aviation Administration and all architectural/engineering firms involved with FAA-administered construction.

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- . VA Master Construction Specification.
- . U.S. Corps of Engineers.

INDUSTRY MARKETS

- BIS clients are primarily from architectural/engineering, legal and governmental sectors, as shown below:

-	Manufacturing		5%
-	Transportation		5
-	Utilities		10
-	Services		45
	. Architecture/engineering	(20)	
	. Legal	(20)	
	. Accounting	(5)	
-	Banking/finance		10
-	Insurance		5
-	Federal government		20
			100%

GEOGRAPHIC MARKETS

- BIS derives 100% of its revenues from clients located in the U.S.
- Offices are located in Atlanta, Boston, Chicago, Houston, Los Angeles, New York (two locations), Philadelphia, San Francisco and Washington, D.C.
 - Cyberway word processing centers are in Atlanta, Chicago, Los Angeles, New York and Washington, D.C.

COMPUTER HARDWARE AND SOFTWARE

- BIS's data center is in New York. Network services are available to nine cities using BIS's internal network with other locations served through Telenet.
- Equipment at the center consists of two IBM 370/155s (DOS), an IBM 4300, two Xerox 9700 laser printers and photocomposition equipment.
- BIS anticipates the installation in early 1981 of two IBM 4341s to replace the IBM 370/155s.

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COMPANY HIGHLIGHT

BOWNE INFORMATION SYSTEMS, INC.
160 Water Street
New York, NY 10038
(212) 952-4400

WM B. MAHONEY
~~Dale G. Ries~~, President
Wholly owned subsidiary of
Bowne & Company, Inc.
Computer Services Employees: 275
Revenues, Fiscal Year End 10/31/78:
$10.3 million

THE COMPANY

- Bowne Information Systems, Inc. (formerly Bowne Time Sharing, Inc.) provides computer-assisted text editing and information management processing services to a variety of industries, primarily architectural/engineering, insurance, legal, and government. Bowne Information Systems, Inc. (BIS) also sells its computer text software as a package.

- BIS has targeted its services at companies with report editing and revision requirements that are too extensive for in-house word processing equipment. The company sees its special text packages as a complement to, rather than a competitor of stand-alone word processing keyboards. BIS management has made a major effort to make its computer-based software available to most word processing equipment on the market today.

- BIS was founded in New York in 1969 by its parent company, Bowne & Company, Inc., a $70 million financial printing concern established in 1775. Although less than 1% of its revenues are generated by captive sources, its parent company, (which showed a $5.4 million profit in fiscal 1978), can provide BIS with financial resources and stability.

- BIS claims to have the largest market share in computer-assisted text editing and to offer products which represent the leading edge of text editing today. Its commitment to growth is clearly evidenced by its assigning almost half of its 275 employees to the marketing effort.

- The 275 BIS employees are functionally divided as follows:

-	Marketing/Sales	125
-	Computer Operations and Programming	55
-	General and Administrative	95

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KEY PRODUCTS AND SERVICES

- Ninety percent of BIS services revenues come from its text network services. The remaining 10% are from the sale of software products.

- BIS's major product is Word/One, its interactive word processing system. It is offered on BIS's network and also sold to in-house users. Word/One currently has more than 4,000 users and is the entry point on the BIS system. Users must go through Word/One to use any of the other BIS products.

 - Word/One is primarily marketed to companies who prepare documents that require extensive editing or frequent revision or updating. It can handle large numbers of users and almost any length document.
 - Word/One originally was an enhancement of the IBM Administrative Terminal System (ATS). Today Word/One is proprietary to BIS.

- Other products include:

 - Photocomposition: a system for automated conversion of typed material to photocomposed pages.
 - MAILPAC and Correspondence Management Systems: products for assembling and disseminating business correspondence, consumer correspondence, and stockholder communications. Both products were developed by BIS.
 - Keysearch Litigation Support System: a legal data base information retrieval system with a rapid on-line search capability using the inverted file technique. This product is a modification of the IMDOC retrieval package.
 - COMSPEC® : computer-assisted specification preparation. This product offers essentially the same edit function as Word/One but permits access to private specification libraries maintained by BIS. COMSPEC is sponsored by the Construction Sciences Research Foundation (CSRF) which has an exclusive marketing agreement with BIS to offer COMSPEC.
 - The master specification libraries available through COMSPEC include:
 - SPECTEXT® - the new CSRF Master Guide covering Divisions 2-16 as defined by Construction Specifications Institute.
 - CSI Division One.
 - SOGS - U.S. Corps of Engineers master for Middle East (Saudi Arabia) construction projects.
 - NAVFAC - U.S. Naval Facilities Master.
 - FAA Master Specification Library - used by the Federal Aviation Administration and all architectural/engineering firms involved with FAA-administered construction.

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- VA Master Construction Specification.
- U.S. Corps of Engineers.
- Sanitary Master - contains text related to wastewater treatment construction projects.

- In February 1979, BIS announced its "Bowne Connection" compatibility program. Through this program, BIS intends to make its computer text software readily accessible to most popular word processing keyboards. BIS is working with the word processing manufacturers to establish the necessary communications links. First word processors to make the "Bowne Connection" are: IBM CMC/ST, Vydec, Lexitron, CPT, 3M, Jacquard, Micom Data, Xerox, and Lanier.

- Also in February 1979, BIS announced the formation of a new service division named Cyberway. This division is the implementor of the Bowne Connection through strategically located service centers throughout the U.S. and provides the following word processing services:

 - Turnkey project support: Cyberway provides the people, equipment and link to Bowne software.
 - Skilled personnel to work on the customer's word processing equipment in order to make the "Bowne Connection."
 - Training programs to enable customers to use any of the Bowne packages via the network.
 - Installation of Bowne software on the customer's internal computer system.

APPLICATIONS

- BIS products offer general business services in addition to specialty services to law fims and architectural/engineering firms.

 - Law firms and corporate legal departments use the information retrieval and litigation support capabilities of BIS.
 - Proprietary data bases can be accessed and maintained by architects and engineers.

INDUSTRY MARKETS

- BIS clients are primarily from architectural/engineering, legal, and governmental sectors, as shown below:

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-	Manufacturing		5%
-	Transportation		5
-	Utilities		10
-	Services		45
	. Architecture/Engineering	20	
	. Legal	20	
	. Accountants	5	
-	Banking/Finance		10
-	Insurance		5
-	Federal Government		20
			100%

GEOGRAPHIC MARKETS

- BIS services are available through nine cities on its own network and 131 cities on the Telenet network. Cities served by the BIS network are: New York; Boston; Washington, D.C.; Philadelphia; Atlanta; Houston; Chicago; Los Angeles; San Francisco.

COMPUTER HARDWARE AND SOFTWARE

- BIS offers Word/One via two IBM System/370 Model 155s running under DOS and COMTEN communications processors in New York. Eight IBM 1403 printers are located in New York, Washington, and Los Angeles. In December, 1978, BIS linked two Xerox 9700 Laser printing systems to its on-line facilities.

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COMPANY HIGHLIGHT

BOWNE TIME SHARING, INC.
345 Hudson Street
New York, N. Y. 10014
(212) 741-4700

Dale B. Ries, President
Wholly owned subsidiary of
Bowne & Company, Inc.
Computer services employees: 180
Revenues, fiscal year end
10/31/75: $5 million approx.

COMPANY BACKGROUND:

- Bowne Time Sharing, Inc. (BTS) provides computer-assisted text editing services to a variety of industries, primarily financial, insurance, legal, and government. BTS also sells its computer text editing software as a package.

- BTS was founded in New York in 1969 by its parent company, Bowne & Company, Inc., a $45 million printing concern established in 1775.

OVERALL ASSESSMENT:

- BTS claims to have the largest market share in computer-assisted text editing and to offer products which represent the leading edge in text editing today.

- BTS's commitment to growth is clearly evidenced by its assigning a full half of its 180 employees to the marketing effort.

- BTS's technical and support staff are regarded as being capable and highly responsive to user needs.

- Although less than 1% of its revenues are generated by captive sources, its parent company, Bowne & Co., Inc. (which showed a $3 million profit in FY 1975), can provide BTS with financial resources and stability.

- BTS has targeted its services at companies with report editing and revision requirements that are too extensive for in-house word processing minicomputers. BTS is, however, vulnerable to a future generation of word processing equipment capable of handling extensive documents.

KEY PRODUCTS AND SERVICES:

- BTS's major product is Word/One, its time shared word processing

system. Word/One currently has more than 4000 users and is the entry point on the BTS system. Users must go through Word/One to utilize any of the other BTS products.

- Word/One is primarily marketed to companies preparing documents requiring extensive editing or frequent revision or updating.

- Because it is a time shared system on a large computer rather than a minicomputer, Word/One can handle large numbers of users and almost any length document up to 500 pages or 25,000 lines.

- Other products include:

 - Photocomposition: a system for automated conversion of typed material to photocomposed pages.

 - Mailpac and Correspondence Management System: products for assembling and disseminating business correspondence, primarily intra-company.

 - Automated Litigation Support System: a legal data base information retrieval system. This month BTS will be announcing an enhancement, a rapid online search capability using the inverted file technique.

 - COMSPEC: computer assisted specification preparation. This product offers essentially the same edit function as Word/One but permits access to eight private libraries maintained by BTS.

- BTS sells Word/One as a software package. Other products are not available as packages.

APPLICATIONS:

- All BTS products are forms of text editing, a specialty application.

INDUSTRY MARKETS:

- BTS clients are primarily from financial, legal, and governmental sectors, as shown below:

Manufacturing	5%
Transportation	5%
Utilities	5%
Distribution	5%

Banking/finance	20%
Insurance	15%
Education	5%
Federal Government	20%
Legal	20%

GEOGRAPHIC MARKETS:

- BTS services are available through ten cities on its own network and 31 cities on the Telenet network. The cities on BTS's own network are: New York; Boston; Washington, D. C.; Philadelphia; Atlanta; Houston; Chicago; Los Angeles; San Francisco; and Greenwich, Connecticut.

- These cities, plus those on the Telenet network, include all major metropolitan areas in the U. S.

COMPUTER HARDWARE AND SOFTWARE:

- BTS offers Word/One via two IBM 370/155s with DOS, an IBM 2703 communications processor in New York, and eight IBM 1403 keyboard printers in New York, Washington, and Los Angeles.

- Word/One supports any communicating typewriter terminal with ASCII, BCD, and EBCD codes and specified line speeds.

- BTS has based some of its programs on package software:

 - Word/One is an enhancement of the IBM Administrative Terminal System (ATS).

 - The Automated Litigation Support System is a modification of the Indoc Litigation Package.

 - Mailpac was developed by BTS.

BRADFORD NATIONAL CORPORATION
67 Broad Street
New York, NY 10004
(212) 530-7890

Alan C. Winters, President and CEO
Public Corporation: AMEX
Total Employees: 3,100
Total Revenue, Fiscal Year End
12/31/83: $144,406,000
Computer Services
Revenue: $128,521,000

THE COMPANY

- Bradford National Corporation, founded in 1968, provides computerized recordkeeping, accounting, and information and transaction processing services, professional services, and applications software to the banking and finance industry.

- 1983 revenue was $144.4 million, a 7% increase over 1982 revenue of $134.6 million. Net losses in 1983 were $8.1 million, as compared with net income of $408,000 in 1982. A five-year financial summary follows:

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BRADFORD NATIONAL CORPORATION
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	1983	1982	1981	1980	1979
Revenue	$ 144,406	$ 134,614	$ 130,628	$ 110,106	$ 91,859
. Percent increase (decrease) from previous year	7%	3%	19%	20%	(1%)
Income (loss) from continuing operations before income tax provision	$ (7,185)	$ 1,918	$ 225	$ 1,156	$ 2,115
. Percent increase (decrease) from previous year	(475%)	752%	(81%)	(45%)	7%
Income (loss) from continuing operations after taxes	$ (8,017)	$ 904	$ 381	$ 2,759	$ 3,428
. Percent increase (decrease) from previous year	(987%)	137%	(86%)	(20%)	50%
Income (loss) from discontinued operations	$ (71)	$ (496)	$ (10,129)	$ 1,651	$ 2,226
Net income (loss)	$ (8,088)	$ 408	$ (10,006)	$ 4,410	$ 5,654
. Percent increase (decrease) from previous year	(a)	104%	(327%)	(22%)	16%
Net earnings (loss) per share	$ (1.92)	$ 0.10	$ (2.52)	$ 1.10	$ 1.42
. Percent increase (decrease) from previous year	(a)	104%	(329%)	(23%)	(18%)

(a) Percent change exceeds 1,000%.

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- In 1981 Bradford decided to concentrate its efforts and resources on offering specialized financial and processing services to the financial services industry. Accordingly, the company began divesting itself of business operations that did not conform to Bradford's orientation or could not be operated profitably, as follows:

 - In December 1981 Bradford sold its Systems Division and a wholly owned subsidiary, Bradford Administrative Services, Inc. to McDonnell Douglas Automation Company for $11.6 million. These operations included providing systems development services to the Department of Defense and other government agencies, and providing facilities management services for the State of New York's Medicaid Management Information Systems.

 - Effective December 31, 1981 Bradford implemented a discontinuance plan for its Health Services Division operations, which consisted primarily of processing Medicare claims by hospitals and doctors.

 - In November 1982 Bradford sold 81% of the common stock of its wholly owned insurance company subsidiary, Eagles' National Corporation, to Whitehall Insurance Holdings Limited. In April 1983 Bradford agreed to sell the remaining 19% of Eagles' common stock to Whitehall for a promissory note of $1.3 million due in May 1986.

 - Effective October 1983 Bradford ceased operation of the securities execution and equities-clearing business conducted by its wholly owned subsidiary, Bradford Broker Settlement, Inc. (BBSI).

 - As a result of continued operating losses since its inception in 1980, substantially all broker-dealer accounts with BBSI were assigned to the Pershing Division of Donaldson, Lufkin & Jenrette, Inc.

 - The agreement provides that Pershing will pay Bradford 2% of net revenues up to $10 million, and 5% of excess net revenues on the transferred accounts for the year following the assignment agreement.

 - Bradford's current continuing operations and services are performed through a single segment, Trust and Securities Clearance.

- Bradford management attributes 1983 net losses largely to the following:

 - Operating losses of $4.6 million from Bradford Broker Settlement Inc., through October 1983. Subsequent phaseout and disposition costs were $2.8 million.

 - Proxy contest and related costs of $2 million.

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- Losses of $678,000 on the sale, begun in 1982 and completed in 1983, of Eagles' National Corporation.

- Research and development expenditures were $4.5 million (3% of revenue) in 1983, $1.9 million (1% of revenue) in 1982, and $1.1 million (1% of revenue) in 1981. In addition, in 1983, 1982, and 1981, $449,000, $359,000, and $744,000, respectively, was spent for customer-sponsored research and development.

- Revenue for the nine months ending September 30, 1984 was $114.3 million, a 6% increase over $107.7 million for the same period in 1983. Net losses for the nine months rose from $4.3 million in 1983 to $10.6 million in 1984.

 - Bradford management states that the 1984 nine-month results reflect a $14 million provision for the loss related to the litigation surrounding the Lion Capital Group loan and related external legal costs.

- Bradford is currently organized into nine wholly owned subsidiaries as follows:

 - Bradford Trust Company of New York.

 - Bradford Trust Company of Boston.

 - Bradford Trust Company of California, headquartered in Los Angeles.

 - Bradford Securities Operations, Inc. (BSOI), a stock transfer agent, headquartered in Fort Lee (NJ).

 - Bradford National Computer Services, the processing division of BSOI, headquartered in Teaneck (NJ).

 - Penn Bradford Stock Services, a stock transfer agent, headquartered in Pittsburgh.

 - Bradford Financial Processing Services, Inc., headquartered in Pittsburgh, which provides trust accounting and sales of master reserve trusts. It is responsible for the new Bradford Spectrum 2000 products.

 - Bradford Broker Settlement, Inc., whose equity securities clearing and execution activities were terminated in 1983. It is still owned by Bradford.

 - Bradford Government Loan Services, headquartered in New York City. It handles, among other things, the servicing of SBA loans in the secondary market.

- As of December 31, 1983 Bradford had 3,100 employees. The company currently has approximately 3,200 employees.

- Major competitors by product line, as identified by Bradford, include the following:

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- Spectrum 2000[T.M.] product line:
 - Trust Accounting - Key Financial, SEI, and NCS.
 - Personal Asset Accounting - SEI.
 - Personal Asset Management - Federated.
 - PARS (Investment IRAs) - Federated, Investors, Shearson, Fidelity, and Dreyfus.
 - Keystone Investment Products (mutual funds) - Federated, Investors, Shearson, Fidelity, and Dreyfus.
 - Mutual to Stock Conversion - Schroeder Trust and Manufacturers Hanover.
- Spectralink[T.M.] product line:
 - Custody - DTC, Manufacturers, Chase, Bankers Trust, and Bank of New York.
 - Securities Clearance - SPC and Bankers Trust.
 - Stock Transfer - Morgan Guaranty, Manufacturers Hanover, Bank of New York, and Bank of Boston.
 - Mutual Fund Shareholder Recordkeeping - Data Systance, State Street Bank/BFDS, and Bank of New York.
 - Government Loan Services - no direct competitor in SBA market since Bradford is the fiscal and transfer agent of the SBA.

KEY PRODUCTS AND SERVICES

- Bradford's revenue is derived from service fees and interest (a portion of which is related to computer services).
 - The distinction between service fee and interest is often only a matter of form, in that interest is earned on customers' deposits at Bradford's subsidiary trust companies, in lieu of service fees.
 - A five-year summary of these sources of revenue follows:

BRADFORD NATIONAL CORPORATION
FIVE-YEAR REVENUE SUMMARY
($ thousands)

	1983	1982	1981	1980	1979
Service fees	$102,331	$ 90,903	$ 75,472	$ 66,749	$55,712
Interest (a)	42,075	43,711	55,156	43,357	36,147
Total	$144,406	$134,614	$130,628	$110,106	$91,859

(a) Interest revenue and related expenses were restated in 1981 and are no longer shown net in order to conform to the predominant industry practice. All interest expense is now included in costs and expenses.

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- Bradford's 1983 revenue is estimated to have been derived as follows ($ millions):

	Percent of Total	Revenue
Processing services	84%	$121.3
Professional services	3	4.3
Software products	2	2.9
Interest (noncomputer services related)	11	15.9
	100%	$144.4

- Bradford's Trust and Securities Clearance Services combine the trust, fiduciary, and custody services of a trust company with the computerized transaction processing, record-keeping, reporting, and communications offerings of a computer services company. These services and products are classified into six general areas as follows:

 - Custodial and related trust services.
 - Transfer agency services.
 - Mutual fund shareholder servicing.
 - Securities clearance.
 - Asset management accounting systems.
 - Utility processing.

- A three-year summary of revenue contribution from Bradford's ongoing services, net of related interest expense, follows:

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BRADFORD NATIONAL CORPORATION
NET REVENUES BY SERVICE
($ millions)

	1983		1982		1981	
	Revenue	Percent of Total	Revenue	Percent of Total	Revenue	Percent of Total
Custodial and related trust services	$ 29.4	24%	$ 22.7	20%	$ 17.7	18%
Transfer agency services	37.4	31	32.0	29	33.4	35
Mutual fund shareholder servicing	20.6	17	20.4	18	15.0	16
Securities clearance	19.5	16	21.7	20	20.0	21
Asset management accounting systems	7.5	6	7.7	7	6.0	6
Data processing services	7.3	6	6.8	6	4.1	4
Total net revenue - ongoing services	$ 121.7	100%	$ 111.3	100%	$ 96.2	100%
Other revenue and adjustments (a)	22.7		23.3		34.4	
Total revenue	$ 144.4		$ 134.6		$ 130.6	

(a) Includes revenue fron other than ongoing services, interest expense netted against the revenues of the ongoing services, intercompany eliminations, and other miscellaneous adjustments.

- Since 1973 Bradford has provided custodial and related recordkeeping and administrative services to trust departments, commercial banking departments, brokers, savings and loans, mutual funds, unit investment trusts, credit unions, and insurance companies.

 - These services, currently provided to over 80 clients, consist of the safekeeping of securities, valued at more than $55 billion, transmittal

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of orders for portfolio transactions, portfolio valuation, recordkeeping and information processing, and generation of reports for tax, regulatory, and financial accounting purposes.

- Bradford's On-Line Custody System allows clients to transmit instructions on their securities, selectively inquire about accounts, and obtain reports via direct dial or leased lines to Bradford's computer center in Teaneck (NJ).

- Bradford has experienced significant growth recently in providing services to unit investment trusts.

 - The company provides trust sponsors with financing and clearance services in the accumulation of the bonds that ultimately constitute each trust's portfolio, undertakes the safekeeping of the bonds, collects income, makes distributions, and maintains records for the trust and its unitholders.

 - These services are currently provided to about 600 trusts valued at approximately $11 billion and having about 600,000 unitholders.

 - In the unit investment trust market Bradford believes it is the third largest service provider.

- Bradford is among the ten largest participants in the Depository Trust Company, a user-owned New York trust company providing custodial services primarily to broker-dealers, and bank trust departments.

- Bradford's custodial and related trust services are offered through Bradford Trust Company. Data processing support is supplied by Bradford Financial Processing Services.

- Stock and bond transfer agency services are performed for more than 3,000 corporations and municipalities with more than 5.4 million security holders.

 - The range of services available includes the following:

 - Recordkeeping on securities owned and transferred.
 - Certificate preparation and issuance.
 - Dividend and interest disbursement.
 - Dividend reimbursement.
 - Security holder communications.
 - Proxy tabulation.
 - Stock option reporting.
 - Exchanges and tender offers.
 - Subscriptions.
 - Public offerings.
 - Check reconciliation.
 - Corporate reorganizations.

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 - . Redemptions.
 - . Mutual-to-stock conversions.

- Services are provided indirectly to over 2,500 corporations and municipalities through banks that are designated as the named transfer agents. Approximately 80 banks currently use Bradford's transfer agency services.

 - . Since 1976 The Chase Manhattan Bank has used the company's services under two contracts relating separately to stock transfer and bond transfer.

- Bradford directly serves as the named transfer agent for more than 600 corporations and municipalities.

- Under a five-year contract awarded in 1979 by the U.S. Small Business Administration (SBA), Bradford also acts as transfer and fiscal agent for the sale, in the secondary market, of the government-guaranteed portion of SBA loans.

- Transfer agent services are offered through Bradford Securities Operations, Inc. (BSOI) and Penn Bradford Stock Services, an 80% owned subsidiary that is a joint venture with Mellon Bank, N.A.

- Bradford has seven regional stock and bond transfer service centers located in New York City, Chicago, Houston, Miami, Minneapolis, Pittsburgh, and San Francisco.

• Mutual fund shareholder services are currently provided to 12 management companies representing 68 mutual funds and nearly one million shareholders.

- Services available include the following:

 - . Processing of share purchases and redemptions.
 - . Disbursement and reinvestment of dividends.
 - . Shareholder communications.
 - . Shareholder record maintenance.

- Bradford has spent $2.2 million over the past three years developing its Personal Asset Recordkeeping (PAR) system, scheduled for availability in late 1984.

 - . The system will expand Bradford's mutual fund customer services to include consolidated statements, personal computer dial-up access, and remote job entry.

- These services are provided primarily through Bradford Trust of Boston.

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- Securities clearance and drafting services are currently provided to over 300 financial institutions.
 - Bradford's municipal and U.S. government bond clearance services include the following:
 - Fixed-income securities clearance.
 - Draft collection settlement.
 - Security payment and receipt.
 - Security delivery and fund allocation.
 - Security loan service.
 - Bond redemption and coupon collection.
 - Mutual fund redemption.
 - Syndicate packaging for underwriters.
 - Fixed-Income Accounting Services (FIAS). Available to all bond brokers-dealers, FIAS provides the daily reports needed to operate a bond business, including transaction record-keeping and general-ledger accounting. FIAS combines clearance and settlement services with back-office record-keeping and general ledger accounting.
 - The National Draft Service (NDS), introduced in 1978, is a nationwide network for collection of securities drafts. NPS is available in 900 cities.
 - Bradford clears/drafts over $100 billion worth of securities each year. Full clearance and drafting services are available in 29 U.S. cities.
 - Due to competitive market conditions in 1983, the company reduced the fees for its bond clearance services, resulting in a substantial decline in profitability. During 1983, as part of a plan to improve profits, Bradford began its Securities Operations Automation Project to develop an on-line system to automate certain bond-clearing transactions that are now performed manually. The cost of this project is expected to total $3.7 million ($1.7 million in 1983, and the balance during 1984 and 1985).
- Asset management accounting processing services and software products are available from Bradford as follows:
 - The Trust On-Line Processing System (TOPS), developed in the late 1960s for bank trust departments, provides on-line processing for over 160,000 trust accounts. Applications include the following:
 - Securities movement and control.
 - Income collection.
 - Beneficiary processing.
 - Employee benefit accounting.
 - Distributions.
 - Tax accounting.
 - Regulatory accounting.

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- Cost accounting.
- Investment performance measurements.

- The Personal Asset Accounting (PAA) system, which is currently being introduced, is an asset management accounting system for customers of banktrust departments that can supplement TOPS.

 - The PAA system allows customers to monitor activity in multiple-asset accounts, such as bank, brokerage, margin, mutual fund, and other accounts, and to transfer balances between accounts on either a direct or automatic basis.

 - Customer statements show overall account activity, chronological activity, separate account positions, credit availability and usage, securities brokerage transactions, and portfolio evaluation.

 - This system is currently used by 15 banks as a processing service. Two additional banks have been granted the right to sublicense PAA to other banks.

- The Personal Asset Management (PAM) system, developed by Bradford in conjunction with Crocker National Corporation, allows financial services organization customers to integrate financial services or products from more than one financial services organization. Currently one bank is using this system.

- In 1984, in response to deregulation and the ensuing competition among financial services organizations, Bradford introduced its SPECTRUM 2000 integrated on-line recordkeeping service for banks.

 - SPECTRUM 2000 provides customer control through a single core account, integrating information from traditional bank products and services with asset-based products and services traditionally offered by brokerage houses and mutual fund vendors.

 - With SPECTRUM 2000, bank customer services available include:

 - Access to the core account via checking, debit/credit cards, ATM, ACH, and EFTS transactions.
 - Market rates of interest on idle cash.
 - Multiple lines of credit.
 - Discount brokerage services.
 - Margin line of credit.
 - Money market and mutual funds.

 - SPECTRUM 2000 can integrate with other Bradford services, including the Personal Asset Account for bank trust department

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clients, the Personal Asset Management system for retail banking, and the Personal Asset Recordkeeping System for IRA/Keogh customers.

. SPECTRUM 2000 is currently used by over 20 banks.

- SPECTRALINK services integrate back-office operations, including stock and bond transfer, securities custody, securities processing, and mutual fund shareholder information processing services.

- Approximately $7.3 million of Bradford's 1983 revenue was derived from selling excess computer time through Bradford National Computer Services' (BNCS) data center in Teaneck (NJ). The company has contracts with over 30 clients, including General Life Insurance Company, Billboard Publications, Inc., and Gillette.

 - BNCS offers more than 100 software packages via remote computing, including operating, interactive, and communications systems, programming languages, data base management, and productivity aids.

 - BNCS also offers a disaster recovery service.

INDUSTRY MARKETS

- Bradford provides its services primarily to the banking and finance industry. The bulk of its clients are banks, bank trust departments, trust companies, mutual funds, and security firms. Other clients include municipalities, the Federal government, and cross-industry corporations.

GEOGRAPHIC MARKETS

- One hundred percent of Bradford's 1983 revenue was derived from the U.S.

- Operational centers are located in New York City; Fort Lee, Teaneck, and Hackensack (NJ); Boston; Pittsburgh; San Francisco; Los Angeles; Miami; Minneapolis; Houston; Atlanta; and Birmingham.

COMPUTER HARDWARE AND SOFTWARE

- Bradford operates three primary data centers as follows:

 - Teaneck (NJ).

 . IBM 3033s, VM and MVS.
 . IBM 370/158, VM and MVS.
 . Amdahl 5860, VM and MVS.

 - Boston.

 . IBM 3031, DLS/VSE.

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- Pittsburgh.
 - IBM 3033, DLS/VSE.
 - IBM 4331, DLS/VSE.
 - IBM 370/148, DLS/VSE.

- Clients access Bradford's data centers via direct dial and leased lines.

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FINANCIAL UPDATE TO HIGHLIGHT DATED NOVEMBER 1981

BRADFORD NATIONAL CORPORATION
67 Broad Street
New York, NY 10004
(212) 530-7890

Peter Del Col, Chairman
Roy B. Simpson, President
Public Corporation, AMEX
Total Employees: 3,100
Total Revenue, Fiscal Year End 12/31/82: $134,614,000
Computer Services Revenue: $115,406,000

BRADFORD
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	1982	1981	1980	1979	1978
Revenue	$134,614	$130,628	$110,106	$91,859	$92,908
. Percent increase (decrease) from previous year	3%	19%	20%	(1%)	10%
Income from continuing operations before income tax provision	$ 1,918	$ 225	$ 1,156	$ 2,115	$ 1,975
. Percent increase (decrease) from previous year	752%	(81%)	(45%)	7%	N/A
Income from continuing operations after taxes	$ 904	$ 381	$ 2,759	$ 3,428	$ 2,279
. Percent increase (decrease) from previous year	137%	(86%)	(20%)	50%	(7%)
Income (loss) from discontinued operations	$ (496)	$ (10,129)	$ 1,651	$ 2,226	$ 2,603
Net income (loss)	$ 408	$ (10,006)	$ 4,410	$ 5,654	$ 4,882
. Percent increase (decrease) from previous year	104%	(327%)	(22%)	16%	28%
Net earnings (loss) per share	$ 0.10	$ (2.52)	$ 1.10	$ 1.42	$ 1.20
. Percent increase (decrease) from previous year	104%	(329%)	(23%)	18%	28%

July 1983
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- In December 1981 Bradford sold its Systems and Administrative Services Divisions to McDonnell Douglas Automation Company for $11.6 million. In addition, effective December 31, 1981, Bradford implemented a discontinuance plan for its Health Services Division operations, which ceased as of December 31, 1982. The loss from these three discontinued operating divisions amounted to $496,000 in 1982 and $10.1 million in 1981 and resulted in the elimination of Bradford's Systems and Facilities Services business segment.

- Bradford's 1982 results also include a net loss of $578,000 from the November 1982 sale of an 81% interest in its Eagles' National Corporation subsidiary, which owns 100% of the common stock of Bradford National Life Insurance Company. 1982 revenue, costs, and expenses include the results of Eagles' operations through June 30, 1982. The subsequent operating loss of $1.2 million for the period July through October 1982 is included in the $578,000 net loss.

- Bradford's current continuing operations and services are performed through a single segment, Trust and Securities Clearance.

SOURCE OF REVENUE

- Bradford's revenue is derived from service fees and interest (a portion of which is related to computer services). A five-year summary of these sources of revenue follows:

BRADFORD
FIVE-YEAR REVENUE SUMMARY
($ thousands)

ITEM \ FISCAL YEAR	1982	1981	1980	1979	1978
Service fees	$ 90,903	$ 75,472	$ 66,749	$55,712	$65,537
Interest (a)	43,711	55,156	43,357	36,147	27,371
Total	$ 134,614	$ 130,628	$ 110,106	$91,859	$92,908

(a) Interest revenue and related expenses were restated in 1981 and are no longer shown net in order to conform to the predominant industry practice. All interest expense is now included in costs and expenses.

- Bradford's 1982 revenue is estimated to have been derived as follows:

	Percent of Total	Revenue ($ millions)
Processing services	82%	$110.0
Professional services	3	3.4
Software products	1	2.0
Interest (noncomputer services related)	14	19.2
	100%	$134.61

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COMPANY PROFILE

BRADFORD NATIONAL CORPORATION
67 Broad Street
New York, NY 10004
(212) 530-2400

Peter Del Col, Chairman
Public Corporation, AMEX
Total Employees: 3,960
Total Revenue, Fiscal Year End 12/31/80: $142,701,000

THE COMPANY

- Bradford was founded in 1968 to provide software and systems development services in the financial market. Bradford National Corporation now provides computerized record-keeping for the securities industry and systems development and facilities management to financial, industry, and government clients. Bradford also offers extensive trust services, medical claims processing, and insurance.

- Although consolidated revenue increased 19% in 1980 to $142.7 million, pretax income fell 23% to $8.8 million, and net income fell 22% to $4.4 million. The decrease in earnings was attributed to increased costs of doing business, relocation and consolidation of facilities, business development expense, and increased interest rates. A five-year summary follows:

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BRADFORD
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	1980	1979	1978	1977	1976
Revenue	$142,701	$120,139	$118,738	$94,016	$65,804
. Percent increase from previous year	19%	1%	26%	43%	15%
Income before taxes	$ 4,068	$ 6,399	$ 7,398	$ 5,736	$ 5,673
. Percent increase (decrease) from previous year	(36%)	(14%)	29%	1%	(32%)
Income before taxes on a fully taxable-equivalent basis	$ 8,776	$11,444	$11,308	$ 8,091	$ 6,955
. Percent increase (decrease) from previous year	(23%)	1%	40%	16%	(30%)
Net income	$ 4,410	$ 5,654	$ 4,882	$ 3,806	$ 3,204
. Percent increase (decrease) from previous year	(22%)	16%	28%	19%	(22%)
Earnings per share	$ 1.10	$ 1.42	$ 1.20	$ 0.94	$ 0.79
. Percent increase (decrease) from previous year	(23%)	18%	28%	19%	(23%)

- For nine months ended September 30, 1981, Bradford reported revenues of $123,252,000, with earnings of $1,709,000 or 43 cents per share. For the comparable nine months in 1980, revenues were $103,731,000 with earnings of $3,684,000 or 92 cents per share.

 - Third-quarter 1981 and nine-month 1981 results include a net after tax gain of $2,933,000 or 73 cents per share from the sale of on option to own certain real estate.

 - Nine-month results also include a net after tax charge for loss on equipment lease obligations amounting to $2,488,000, equal to 63 cents per share. The charge came from the establishment of a reserve for obligations that had originally been assumed by O.P.M. Leasing Services, a lessor of computer equipment to Bradford, that filed a bankruptcy petition.

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- Profit performance was also affected by depressed bond and security trading due to high interest rates, relocation of certain Medicare operations to New York, and the reorganization of certain operating units.

- Bradford's revenue is derived from service fees and net interest (associated with the Trust and Securities Clearance Services) earned on customers' balances on deposit at Bradford's chartered trust companies.

 - The distinction between service fee and interest is often only a matter of form, in that interest is earned in lieu of fees billed to customers. Interest is also earned on advances to brokers and dealers in conjunction with securities clearance activities.

 - A large portion of interest revenue is earned from investment in tax-exempt federal, state, and local obligations.

 - Bradford's 1980 service fee revenue increased 19%, while interest revenue increased 18% over 1979. A chart follows of Bradford's revenue divided into service fee and net interest:

BRADFORD
FIVE-YEAR REVENUE SUMMARY
($ thousands)

	1980	1979	1978	1977	1976
Service fee	$110,352	$ 92,703	$ 99,588	$80,606	$56,714
Net interest	32,349	27,436	19,150	13,410	9,090
Total	$142,701	$120,139	$118,738	$94,016	$65,804

- Bradford's subsidiaries and divisions provide services to financial, medical, government, and general corporate accounting.

- Bradford classifies its business into three segments:

 - Trust and Securities Clearance Services include corporate mutual fund shareholder, security custody, asset record-keeping, employee benefit trust, personal trust and annuitant accounting, securities clearance, and draft collection services.

 - Systems and Facilities Services include a broad range of consulting, systems design, programming, systems operation, and implementation services.

 - Insurance Services include administrative and claims services, annuity services, health and accident insurance, and life insurance.

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- A four-year revenue summary follows for each business segment:

BRADFORD
FOUR-YEAR SUMMARY BY BUSINESS SEGMENT
($ thousands)

	1980	1979	1978	1977
Trust and Securities Clearance				
. Revenue	$91,428	$74,762	$76,512	$70,965
. Revenue on a tax-equivalent basis	96,136	79,807	80,422	73,320
. Operating profit*	3,636	2,761	4,072	5,466
Systems and Facilities				
. Revenue	48,040	44,902	42,226	23,051
. Operating profit*	5,493	7,241	6,209	2,269
Insurance				
. Revenue	3,233	475	-	-
. Operating profit*	15	45	-	-

*Excludes general corporate overhead and interest expense.

- Bradford acquired the Health Services Division of Optimum Systems, Inc. in July 1980.
 - The acquisition contributed $4 million to 1980 Bradford revenue.
 - Computer operations were subsequently transferred from the California headquarters to Bradford's New Jersey data center.
 - The division supplies processing services for government-funded Medicare programs.
 - The acquisition, in combination with Bradford National Life Insurance, enables Bradford to bid for Medicare and "insured" Medicaid claims processing contracts, to qualify for prospective federally mandated health care programs, and to develop annuities and other insurance-related services which, under law, may be offered only by a licensed insurer.
- Bradford tentatively received a Medicaid processing contract from the Texas Board of Human Resources in July 1980. The contract, worth approximately $75 million, was immediately contested by the current holder of the contract, Electronic Data Systems (EDS).

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- After heated arguments from both sides, the Texas Board of Human Resources in January 1981 withdrew its contract for restructuring and new bids. Negotiations are under way with EDS to extend the current contract until new evaluations are complete.

- Bradford ended its breach of contract claims against Texas in February 1981 with a $3.1 million settlement.

- In March 1981, Bradford announced a retainer agreement with Kidder, Peabody, and Company, Inc., to represent it in any negotiations for acquisition or merger.

- In June 1981, Bradford sold its 49.9% interest in Western Bradford Trust Company to Crocker National Corporation for $1 million in cash. Although WBTC is now wholly owned by Crocker, Bradford will continue to provide processing services for WBTC trust operations. WBTC 1980 revenue was $14.3 million with net income of $0.8 million.

- Of Bradford's 3,960 employees, 2,550 supported the trust and securities clearance services, 1,000 supported systems and facilities services, and 410 are associated with insurance activities.

- Bradford's competitors include:

 - Shareholder services: various banks.

 - Trust services: SEI Corporation.

 - Medical services: Computer Sciences Corporation, Electronic Data Systems, and The Computer Company.

KEY PRODUCTS AND SERVICES

- The following table shows the revenue contribution of Bradford's service segment on a fully tax-equivalent basis:

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BRADFORD
SERVICE SEGMENT CONTRIBUTION TO TOTAL REVENUE
($ millions)

	1980	1979	1978	1977	1976
Trust and Securities Clearance Services					
. Corporate and mutual fund shareholder services	$ 42.8	$ 38.4	$ 32.1	$ 35.1	$ 26.4
. Securities custody, asset record-keeping and other trust services	32.9	25.2	23.8	16.8	11.9
. Securities clearance and draft collection services	17.2	13.2	21.4	19.7	14.5
Systems and Facilities Services	47.2	43.2	41.7	22.5	13.2
Insurance	2.9	-	-	-	-

- The Trust and Securities Clearance segment combines the trust, fiduciary, and custody services of a trust company with the computerized transaction processing, record-keeping, reporting, and communications offerings of a computer services company.

- Corporate and mutual fund shareholder services are available through Bradford Trust Company and Bradford Trust Company of Boston. Bradford Securities Operating, Inc. is the stock transfer agent, and its subsidiary, Bradford National Computer Services, provides the remote and batch processing.

 - This segment offers computer, clerical, and administrative services for banks to perform their duties as transfer agents and registrars of corporations.

 - Applications include:

 . Tracking of securities owned or transferred by stockholders.
 . Stock certificate and transfer journal sheet preparation.
 . Dividend calculation and mailing.
 . Proxy material and report mailing.
 . Shareholder correspondence handling.
 . Dividend reinvestment.
 . Preparation of various reports.

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- Bradford and Mellon Bank N.A. formed Penn Bradford Stock Services as a joint venture, 80% owned by Bradford to acquire Mellon Bank's stock transfer business. Western Bradford Trust was a similar arrangement with Crocker National Corporation.

- Bradford has contracted with Chase Manhattan Bank to provide its corporate shareholder services. Chase retains administrative and marketing responsibility, and Bradford provides computer and clerical services. The contract, ending in June 1981, contributed $11.4 million in 1980, 27% of the segment's revenue.

- Securities custody, asset record-keeping, and trust services are available to mutual fund, financial, and industrial companies through Bradford's trust companies. Accounting for these services is provided by Bradford Financial Processing Services. Specific applications include:

 - Personal Trust Accounting Service: Bradford offers interactive portfolio record-keeping and reporting, tax preparation, and income reconciliation to banks.

 . The Trust Accounting System is also available on an IBM 4300 as a turnkey system.

 - Securities Custody Service: Bradford began in 1979 to provide access to a central securities depository which replaces stock certificates transferred to electronic book entry settlement for participating banks.

 . In addition to accounting and record-keeping services, custody of the securities is available.

 - Employee Benefit Plan Services: Bradford acts for corporations as directed trustee for both defined benefit and defined contribution plans, including Employee Stock Ownership Plan (ESOP), Tax Reduction Act, Stock Ownership Plan (TRASOP), thrift, profit sharing, and retirement plans. Services offered include safekeeping of assets, administration of trust, portfolio accounting, and benefit payments.

 - Mutual-to-Stock Conversion: As a stock transfer agent, Bradford's specialized processing service assists savings and loan institutions that are converting from mutual to stock companies. Tasks include consolidation of accounts, proxy mailing and tabulation, subscription offering, public offering, certificate insurance, ongoing stock transfer, and shareholder services.

- Securities clearance and draft collection services are available through Bradford Securities Processing Services (BSPS).

 - Services available to approximately 300 clients in 1980 include:

 . Fixed income securities clearance.
 . Draft collection settlement.

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 - Security payment and receipt.
 - Security delivery and fund allocation.
 - Security loan service.
 - Bond redemption and coupon collection.
 - Mutual fund redemption.
 - Syndicate packaging for underwriters.
 - Fixed Income Accounting Services (FIAS). Available to all bond brokers-dealers, FIAS provides daily reports needed to operate a bond business, including transaction record-keeping and general ledger accounting. FIAS combines clearance and settlement services with back-office record-keeping and general ledger accounting.
 - The National Draft Service (NDS), introduced in 1978, is a nationwide network for collection of securities drafts. There are currently 21 locations.

- Bradford Broker Settlement began in September 1980 to provide security clearance and back office processing to brokerage firms, including record-keeping, transaction processing, and related clerical and administrative services.

 - BBSI will either perform the clearing and accounting functions alone or maintain all individual client records, transactions, and reporting also.

 - BBSI finances some securities cleared.

- Bradford formed Security Trust Company in November 1980 to provide trust services in California. Though not yet operational, it will eventually take over two California offices of BSPS.

- In response to regulatory developments, Bradford is in the process of transferring most of BSPS's operations to Bradford Trust Company.

- Systems and Facilities Services are provided primarily through the Systems Division to government, industrial, and financial agencies. Systems development services to government agencies are the major part of this segment.

 - Bradford Administrative Services administers a contract with the New York State Department of Social Services signed in 1977 to act as the state's fiscal agent in the design, development, implementation, and operation of the state's Medicaid Management Information System.

 - BASI does not underwrite claims and is responsible for processing only.
 - The contract accounted for approximately $26 million in 1980 revenue, 18% of consolidated, and 55% of segment revenue.
 - Processing is performed from a New York data center run by the Systems Division.

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- . The contract expires in 1982.

- Bradford Securities Processing administers a contract signed in 1979 with the U.S. Small Business Administration under which Bradford Trust Company is transfer and fiscal agent for the sale in the secondary market of those loans 90% guaranteed by SBA.

 - . Under the five-year contract, a system has been designed that employs a centralized fiscal paying system and a security certificate to replace the transfer of voluminous loan documents and the issuance of separate checks each time a bank sells the government-guaranteed portion of an SBA loan.

 - . Processing is performed by the Bradford Government Loan Services Division.

- The Health Services Division (HSD), acquired in 1980 from Optimum Systems, Inc., supplies services to the government-funded Medicare program.

 - . HSD provides computerized Medicare information processing to maintain patient records and pay doctors (Part B Medicare). These services are employed by large insurers in nine states.

 - . HSD is developing systems to also be able to pay hospitals and other health service providers (Part A Medicare).

 - . HSD also offers health care support services and holds contracts with nearly 30 Professional Standard Review Organization units located throughout the U.S..

- Other systems design contracts include:

 - . Logistic support analysis systems for the Department of Defense to predict logistic resources required over the lifetime of a ship, aircraft, or weapons system.

 - . An advanced alarm system for the Los Alamos Laboratory in New Mexico.

 - . A specialized accounting system encompassing general ledger, fixed assets, investments, and auxiliary subsystems necessary for the management and fiscal operations of a large cooperative and condominium housing community.

 - . Substantial consulting services in connection with the Trident submarine development program.

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- Insurance services are provided by Bradford National Life Insurance Company (BNLI). BNLI is licensed to offer life and health insurance in 32 states and the District of Columbia.

 - BNLI offers claims processing and control services to self-insuring employers.

 - New areas under consideration include services for voluntary employees' beneficiary associations, services involving charitable remainder trusts, and variable annuities associated with certificates of deposit.

INDUSTRY MARKETS

- Bradford specializes in financial transaction processing and administrative services. The bulk of its clients are financial institutions, including banks, trust companies, and securities firms.

- Thirty percent of Bradford's revenue is derived from domestic governments. Municipal governments account for 3%, state governments 22%, and the federal government 5%. The New York State Department of Social Services accounted for about 18% or $25.7 million of consolidated revenue. Government revenue is principally related to the Systems and Facilities Services.

- Insurance represents 2% of revenue.

GEOGRAPHIC MARKETS

- Bradford has about 3,000 clients nationwide. The majority are concentrated in the New York, Boston, and Washington DC corridor.

- Bradford's sales offices are located in Birmingham, Boston, Chicago, Dallas, Los Angeles, New York, Pittsburgh, Rockville (MD), and San Francisco.

- Bradford does not derive any revenue from international sources.

COMPUTER HARDWARE AND SOFTWARE

- Bradford operates six regional data centers:

 - Teaneck, NJ: 2 IBM 3033s under OS.
 - New York, NY: 1 IBM 3033 and 1 IBM 370/158 under OS (NY Medicare).
 - Boston, MA: 1 IBM 3031 and 1 IBM 370/148 under DOS.
 - Los Angeles, CA: 1 Itel AS/5-3 under DOS.
 - Pittsburgh, PA: 2 IBM 3031s and 1 IBM 370/148 under DOS.
 - San Francisco, CA: 1 IBM 360/65 under DOS.

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COMPANY HIGHLIGHT

BRADFORD NATIONAL CORPORATION
67 Broad Street
New York, NY 10004
(212) 530-2400

Peter Del Col, Chariman
Public Corporation, AMEX
Total Employees: 3,700
Total Revenues, Fiscal Year End
12/31/79: $120,139,000

THE COMPANY

- Bradford was founded in 1968 by Donald K. Lourie (retired), Peter Del Col (Chairman of the Board, President and Chief Executive Officer), Howard Waltman (Executive Vice President) and Sol Seltzer (Executive Vice President). The company initially provided software and systems development services to a limited number of large customers. Bradford National Corporation now provides a comprehensive range of computerized recordkeeping for the securities industry, and systems development and facilities management services to financial institutions, industry and government.

- Consolidated revenues increased 1% in 1979 from $118,738,000 to $120,139,000. At the same time, net income increased 16% to $5,654,000 from $4,882,000. A five-year financial summary follows:

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BRADFORD
FIVE-YEAR FINANCIAL SUMMARY
($ Thousands, Except Per Share Data)

FISCAL YEAR / ITEM	1979	1978	1977	1976	1975
Revenues	$120,139	$118,738	$94,016	$65,804	$57,334
. Percent increase from previous year	1%	26%	43%	15%	16%
Income before taxes	$ 6,399	$ 7,398	$5,736	$ 5,673	$ 8,310
. Percent increase (decrease)from previous year	(14%)	29%	1%	(32%)	93%
Income before taxes on a fully taxable-equivalent basis	$11,444	$11,308	$8,091	$ 6,955	$ 9,973
. Percent increase (decrease) from previous year	1%	40%	16%	(30%)	--
Net income	$ 5,654	$ 4,882	$3,806	$ 3,204	$ 4,118
. Percent increase (decrease) from previous year	16%	28%	19%	(22%)	93%
Earnings per share	$ 1.42	$ 1.20	$.94	$.79	$ 1.02
. Percent increase (decrease) from previous year	18%	28%	19%	(23%)	92%

- Bradford's revenues are derived from both service fees and net interest (associated with the Trust and Securities Clearance Services) earned on customers' balances on deposit at Bradford's chartered trust companies. The distinction between service fee and interest is often only a matter of form, to the extent that interest is earned in lieu of fees billed to customers. Interest is also earned on advances to brokers and dealers in conjunction with securities clearance activities.

 - Bradford's 1979 service fees revenues decreased 7%, while interest revenues increased 43% over 1978. A chart follows of Bradford's revenues divided into service fees and Interest-Net.

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BRADFORD
FIVE-YEAR REVENUE SUMMARY
($ Thousands, Except Per Share Data)

FISCAL YEAR / ITEM	1979	1978	1977	1976	1975
Revenues:					
Service Fees	$92,703	$99,588	$80,606	$56,714	$52,094
Interest-Net	27,436	19,150	13,410	9,090	5,240
Total	$120,139	$118,738	$94,016	$65,804	$57,334

- Management reports that lower service fees resulted from the loss in 1978 of a contract with the National Securities Clearing Corporation for over-the-counter securities clearance services, which contributed almost $9.5 million in service fees in 1978.

- In addition, the decline in service fees was attributable to the loss of a contract worth almost $2 million with Pacific Stock Exchange.

- Management explains that the increase in interest revenues, associated with trust and securities clearance, reflects the significantly higher yield on interest-bearing assets and, to a lesser extent, an increase in invested balances.

- Bradford classifies its business into two service segments:

 - Trust and Securities Clearance Services, which include a variety of corporate mutual fund shareholder, securities custody, asset record-keeping, employee benefit trust, personal trust accounting, annuitant, securities clearance and draft collection services.

 - Systems and Facilities Services, which include a broad range of consulting, systems design and development, programming, systems implementation and operational services.

 - A summary follows of revenues of each business segment for the past five years.

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BRADFORD
FIVE-YEAR SUMMARY BY BUSINESS SEGMENT
($ Thousands, Except Per Share Data)

ITEM / FISCAL YEAR	1979	1978	1977	1976	1975
Revenues					
. Trust and Securities Clearance	$75,237	$76,512	$70,965	$53,217	N/A
- Percent increase (decrease) from previous year	(2%)	8%	33%	--	--
. Systems and Facilities	$44,902	$42,226	$23,051	$12,587	N/A
- Percent increase from previous year	6%	83%	83%	--	--
Revenues on a fully taxable-equivalent basis					
. Trust and Securities Clearance	$80,282	$80,422	$73,320	$54,604	N/A
- Percent increase (decrease) from previous year	0%	10%	34%	--	--

. Apart from the termination of the National Securities Clearing Corporation contract, which had contributed to Trust and Securities Clearance revenues, on-going activities within this segment increased by 13% over the prior year. Revenues from the Systems and Facilities segment increased 6%, apart from the loss of the Pacific Stock Exchange contract.

- There are nine wholly owned subsidiaries of Bradford National Corporation and one joint-venture subsidiary. Included in the nine are two new subsidiaries.

 - In 1979, Bradford formed the new Bradford Broker Settlement, Inc. (BBSI) to offer stock brokers a securities brokerage back office service. In 1979, this subsidiary registered as a broker-dealer with the SEC and the State of New York and applied for membership in The New York Stock Exchange, the National Association of Securities Dealers, Inc. ("NASD") and the New York Futures Exchange, Inc.

 - In November 1979, Bradford acquired all of the shares of Eagles National Corporation and its wholly owned subsidiary, Eagles National Life Insurance Company, both of Lexington (KY) for approximately $2.2 million.

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 - The acquisition of Eagles enables Bradford to bid for Medicare and "insured" Medicaid claims processing contracts, to qualify for prospective federally mandated health care programs, and to develop annuities and other insurance-related services which, under law, may only be offered by a licensed insurer.

- The other subsidiaries include: Bradford Trust Company (New York); Bradford Trust Company of Boston; Bradford Securities Operations, Inc.; Bradford Services, Inc.; Bradford Financial Processing Services, Inc.; Bradford Securities Processing Services, Inc.; Bradford Administrative Service, Inc.

- Western Bradford Trust Co. (WBTC) is 49.9% owned by Bradford and 50.1% by Crocker National Corporation.

- Bradford also has joint-venture agreements with The Chase Manhattan Bank, N.A. and Mellon Bank, N.A., for whom it provides corporate shareholder services.

 - Its agreement with Chase Manhattan Bank, N.A. accounted for 9.5% of Bradford's 1979 consolidated revenues. Under the agreement, Chase continues to have both administrative and marketing responsibility for its customer relationships, while Bradford assumes the computer and clerical processing functions.

 - Until the end of 1979, Bradford had provided corporate shareholder services for Marine Midland Bank, which, beginning in 1980, resumed providing its own stock transfer services.

- On July 1, 1980, Bradford acquired the Health Services Division of Optimum Systems, Inc., located in Santa Clara (CA).

 - While the acquisition is not expected to have material effect on net income in 1980, the Health Services Division of OSI had annualized revenues of over $7 million. The purchase price is based on future revenues from the new division.

 - The new division is a supplier of services for the government-funded Medicare program. Its systems are employed by several large insurers, in use in Connecticut, Minnesota, Pennsylvania, Arkansas and five other states.

 - It also offers health care support services and holds contracts with nearly 30 Professional Standard Review Organization units located throughout the U.S.

- On July 15, 1980, the Texas Department of Human Resources announced it had selected Bradford National as the state's Medicaid insurance carrier. The dollar amount and details of the contract will be revealed when a final agreement is reached. In the interim, said award has been contested.

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- The agreement calls for Bradford to provide claims processing and payment of claims to health care providers participating in the state's Medicaid program.

- The contract would extend over four years with the state having the option to renew the contract for two one-year periods. Operations are expected to begin in September 1981.

- During 1979, Bradford provided services to approximately 1,500 customers. The New York State Department of Social Services accounted for approximately $24.6 million, or 55%, of the Systems and Facilities segment and 20.5% of consolidated revenues.

- Of Bradford's 3,700 employees, an estimated 2,700 support the Trust and Securities Clearance Services, and 1,000 Support Systems and Facilities Services.

- Bradford's competitors include various banks in the shareholder service and security processing areas, SEI Corporation in the trust services area and Computer Sciences Corporation and Electronic Data Systems Corporation for Medicare and Medicaid claims processing.

KEY PRODUCTS AND SERVICES

- The following table shows the approximate revenue contribution of Bradford's service segments. (Revenues include interest income on a fully taxable-equivalent basis.) Trust and Securities accounted for 64% of 1979 revenues and Systems and Facilities Services accounted for 36% of the total revenues.

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BRADFORD
APPROXIMATE CONTRIBUTION TO TOTAL REVENUES
BY SERVICE SEGMENT, 1975-1979

ITEM \ FISCAL YEAR	1979	1978	1977	1976	1975
Trust And Securities Clearance Services					
. Corporate and mutual fund shareholder services	32%	27%	37%	40%	42%
. Securities custody, asset recordkeeping and other trust services	21	20	18	18	15
. Securities clearance and draft collection services	11	18	21	22	20
Systems and Facilities Services	36	35	24	20	22
Other	—	—	—	—	1
	100%	100%	100%	100%	100%

- Corporate shareholder services are provided by Bradford's chartered trust companies to banks and corporations on a remote computing or batch basis. Services include recordkeeping of securities owned or transferred by shareholders, preparation of stock certificates and transfer journal sheets, calculation and mailing of dividends, mailing of proxy material and reports to shareholders, handling of shareholder correspondence, reinvestment of dividends, proxy tabulation, and preparation of a variety of reports.

- Bradford's trust companies also provide custody services for mutual funds, other financial and industrial companies, and individuals. The securities safekeeping, remote processing of all activities in the customer's portfolio, preparing various reports and other operations services account for approximately 21% of revenues. The trust companies act as shareholder servicing agent and as a dividend disbursing agent, and purchase securities for shareholder dividend reinvestment plans. They also provide corporate and personal trust services and act as trustee for bond trusts. Specific services include:

 - Personal Trust Accounting Service: Seventy banks use this interactive accounting and information systems which is designed to handle the needs of each functional area within the trust department.

 - Securities Custody Service: Given a national trend to replace stock certificates with electronic book entry settlement, Bradford in 1979

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provided access to a central securities depository for some 50 participating banks.

 - The trust accounting service can be integrated with Bradford's custody services. Bradford Trust Company provides the custody module of the system and Bradford Financial Processing Services, Inc., the accounting module.

 - Also available on a turnkey basis is the Trust Accounting System, based on an IBM 4300. There are six installations of the system, which starts at $150,000.

- Employee Benefit Plan Services: Bradford acts for corporations as directed trustee for both defined benefit and defined contribution plans, including Employee Stock Ownership Plan (ESOP), Tax Reduction Act, Stock Ownership Plan (TRASOP), thrift, profit sharing, and retirement plans. Services offered include safekeeping of assets, administration of trust, portfolio accounting, benefit payments.

- Mutual-to-Stock Conversion: As a stock transfer agent, Bradford's specialized processing service assists savings and loan institutions that are converting from mutual to stock companies. Tasks accomplished include consolidation of accounts, proxy mailing and tabulation, subscription offering, public offering, certificate insurance, ongoing stock transfer, and shareholder services.

- Through Bradford Securities Processing Services, Inc. (BSPS), Bradford clears securities for commercial banks, municipal bond dealers and brokers. These services generated approximately 11% of 1979 revenues. BSPS had approximately 300 clients in 1979. Clearance services include receipt and payment for securities, delivery of securities and collection of funds. In addition, BSPS provides syndicate packaging services to securities underwriters. Specific services include:

 - Fixed Income Accounting Services (FIAS). Available to all bond brokers-dealers, FIAS provides daily reports which are needed to operate a bond business, including transaction recordkeeping aand general ledger accounting. FIAS combines clearance and settlement services with back-office recordkeeping and general ledger accounting. The National Draft Service (NDS), introduced in 1978, is a nationwide network for swift collection of securities drafts.

- Bradford Broker Settlement, Inc. will begin to provide securities clearance for brokerage firm customers in September 1980. As part of these services, BBSI will perform the recordkeeping, processing and related clerical and administrative services to clear trades by or for brokerage firms.

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- Thirty-six percent of Bradford's revenues derive from its Systems and Facilities Services. Bradford performs systems development services for government agencies, industrial firms and financial agencies. Presently, government agencies account for a major part of this work.

 - Roughly 20% of Bradford's revenues derive from the New York State Department of Social Services, associated with a contract Bradford has had since 1977. Bradford was appointed the state's fiscal agent to assist in the design, development, implementation and operation of the state's computerized Medicaid Management Information System.

 - Early in 1979, the U.S. Small Business Administration named Bradford Trust Company its transfer and fiscal agent in connection with the sale, in the secondary market, of the 90% portion of loans guaranteed by the SBA. Under a five-year contract, a system has been designed that employs a centralized fiscal paying system and a security certificate to replace the transfer of voluminous loan documents and the issuance of separate checks each time a bank sells the government-guaranteed portion of an SBA loan.

 - Other examples of systems design contracts include:

 . An advanced alarm system being developed for the Los Alamos Laboratory in New Mexico. The security and emergency resources dispatch system will monitor intrusion, unauthorized access, and requests for emergency support. It will then provide appropriate alert and security force response and call on emergency resources where needed.

 . A specialized accounting system encompassing general ledger, fixed assets, investments and auxiliary subsystems necessary for the management and fiscal operations of a large cooperative and condominium housing community.

 . Substantial consulting services in connection with the Trident submarine development program.

INDUSTRY MARKETS

- Bradford specializes in financial transaction processing and administrative services. The bulk of its clients are financial institutions, including bank and trust companies and securities firms.

- Thirty percent of Bradford's revenues are derived from domestic governments. Municipal governments account for 3%, state governments 22% and the federal government 5%. Government revenues are principally related to the Systems and Facilities Services.

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GEOGRAPHIC MARKETS

- Bradford has 3,000 clients nationwide. The majority of clients are concentrated in the New York/Boston/Washington corridor.
- Bradford's sales offices are located in New York, Boston, Pittsburgh, Rockville (MD), Chicago, Birmingham, Dallas, Los Angeles and San Francisico.
- Bradford does not derive any revenues from international sources.

COMPUTER HARDWARE AND SOFTWARE

- While maintaining five regional data centers, the hub of Bradford's system is located in Teaneck, New Jersey. Other regional centers are located in Boston, New York, Pittsburgh, San Francisco and Los Angeles.
- The data centers' complement of CPU's includes:
 - Two IBM 3033s operating under OS, (one dedicated to the New York MMIS operation).
 - Three IBM 3031s operating under DOS.
 - One IBM 370/148 operating under DOS.
 - One IBM 370/145 operating under DOS.
 - One Itel AS/5-3 operating under DOS.
 - One IBM 370/158-AP operating under OS, dedicated to the New York MMIS operation.

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BRADFORD NATIONAL CORPORATION
2 Broadway
New York, NY 10004
(212) 480-1600

Peter Del Col, President
Public Corporation, AMEX
Total Employees: 3,700
Total Revenues, Fiscal Year End 12/31/78: $118,738,000

THE COMPANY

- Bradford was founded in 1968 by Donald K. Lourie (retired), Peter Del Col (Chairman of the Board, President and Chief Executive Officer), Howard Waltman (Executive Vice President), and Sol Seltzer (Executive Vice President). The company initially provided software and systems development services to a limited number of large customers. Bradford National Corporation now provides a comprehensive range of computerized recordkeeping for the securities industry, systems development and facilities management services to financial institutions, industry, and government.

- Consolidated revenues for 1978 increased to $118.7 million from $94 million in 1977, a 26% increase. Net income for the same period increased 28% to $4.9 million in 1978 from $3.8 million in 1977. A five year financial summary follows:

FIVE YEAR FINANCIAL SUMMARY
BRADFORD NATIONAL CORPORATION
AND SUBSIDIARIES
($ Thousand, Except Per Share Data)

FISCAL YEAR / ITEM	1978	1977	1976	1975	1974
Revenues	$118,738	$94,016	$65,804	$57,334	$49,627
. Percent increase from previous year	26%	43%	15%	16%	21%
Income before taxes extraordinary item	$ 7,398	$ 5,736	$ 5,673	$ 8,310	$4,308
. Percent increase from previous year	29%	1%	-32%	93%	-33%
Net income	$ 4,882	$ 3,806(A)	$ 3,204	$ 4,118(A)	$2,129(A)
. Percent increase from previous year	28%	19%	-22%	93%	-9%
Net Income per share	$ 1.20	$.94	$.79	$ 1.02	$.53
. Percent increase from previous year	28%	19%	-23%	92%	-7%

(A) Extraordinary Item Reported

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- Bradford classifies its business into two service segments:
 - Trust and Securities Clearance Services: Corporate and mutual fund shareholder services; securities custody, asset recordkeeping and other trust services; and securities clearance and draft collection services.
 - Systems and Facilities Services: Consulting and systems design, development, and operation.
 - The approximate contribution of each segment to total revenues for the past five years is shown in the table below:

APPROXIMATE CONTRIBUTION TO TOTAL REVENUES
BY SERVICE SEGMENT, BRADFORD NATIONAL CORPORATION
1974-1978

FISCAL YEAR / ITEM	1978	1977	1976	1975	1974
- Trust and Securities Clearance Services					
. Corporate and mutual fund shareholder services	27%	37%	40%	42%	54%
. Securities custody, asset recordkeeping and other trust services	20	18	18	15	9
. Securities clearance and draft collection services	18	21	22	20	11
- Systems and facilities services	35	24	20	22	23
- Other	-	-	-	1	3
TOTAL	100%	100%	100%	100%	100%

- The growth in Bradford's revenues is attributed to a higher level of systems and facilities management activities - primarily as fiscal agent for New York State's Medicaid Management Information System (MMIS), which the company began operating in November 1977.
 - In November 1978, Bradford completed its first year of operation for the New York City portion of the state's Medicaid program, which in 1979 was expanded to cover the entire state of New York.
 - When the statewide system is in place (1979-1980), Bradford will act as fiscal agent for the State, processing and paying all Medicaid claims outside New York City.
 - Under the contract expiring 1982, Bradford's responsibility is restricted to the processing of claims. It does not act as an underwriter of these claims.
 - The New York City Medicaid contract accounted for approximately 20% of Bradford's consolidated revenues for 1978.

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- Bradford has grown through internal effort, acquisitions, and joint ventures with major banks.
 - Bradford provides corporate shareholder services for Bankers Trust Company, Marine Midland Bank, and Mellon Bank, N.A. through joint venture agreements.
 - Western Bradford Trust Company (WBTC), headquartered in San Francisco, is 49.9% owned by Bradford and 50.1% owned by Crocker National Corporation (parent of Crocker National Bank).
 - Bradford has an agreement with Chase Manhattan Bank, N.A. to provide services in support of Chase's corporate transfer agency, registrar, corporate trust, and other corporate agency activities. Under the agreement, Chase continues to have both administrative and marketing responsibility for its customer relationships, while Bradford assumes the computer and clerical processing functions. The arrangement with Chase accounted for approximately 9.5% of Bradford's 1978 consolidated revenues.

- Until January 1979, Bradford maintained a facilities management contract with the National Clearing Corporation (NCC) which contributed 8% to consolidated revenues and approximately 17% to 1978 pretax income. Services were discontinued after the formation of the National Securities Clearing Corporation which combined the clearing agencies of the New York and American Stock exchanges with that of the NASD's over-the-counter operations.

- During the second quarter of 1978, the operations of TAD Depository Corporation, a then 20% owned securities clearing agency, and SPS Options Services, Inc., a wholly-owned subsidiary which executed and cleared orders on the Chicago Board Options Exchange, were discontinued. The combined revenues for the two operations were less that 2% of total revenues for the years ended December 31, 1978 and 1977.

- Of Bradford's 3,700 employees, an estimated 2,700 support the Trust and Securities Clearance Services, and 1,000 support Systems and Facilities Services.

KEY PRODUCTS AND SERVICES

- The Trust and Securities Clearance processing operations of Bradford National Corporation accounted for 65% of 1978 revenues and the Systems and Facilities operations 35% of total revenues.

- Corporate shareholder services are provided to banks and corporations on a remote computing or batch basis. They account for 27% of Bradford's total revenues. Services include recordkeeping of securities owned or transferred by shareholders, preparation of stock certificates and transfer journal sheets, calculation and mailing of dividends, mailing of proxy material and reports to shareholders, the handling of shareholder correspondence, and reinvestment of dividends. Labor intensive services, they have been declining in relative importance of Bradford's total processing business.

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- Twenty percent of total revenues stem from Bradford's chartered trust companies in New York and Boston which also offer remote computing services. Bradford Trust Companies provide custody services for mutual funds, for other financial and industrial companies and for individuals. Bradford Trust Companies provide other operations services, including acting as a shareholder servicing agent, as a dividend disbursing agent, and purchasing securities for shareholder dividend reinvestment plans. They also provide corporate and personal trust accounting services and act as trustee for bond trusts. Examples of specific services include:

 - Personal Trust Accounting Service: Seventy banks use this interactive accounting and information system which is designed to handle the needs of each functional area within the trust department.
 - Securities Custody Service: Given a national trend to replace stock certificates with electronic book entry settlement, Bradford in 1978 provided access to a central securities depository for 42 participating banks.
 - Employee Benefit Plan Services: Bradford acts for corporations as directed trustee for both defined benefit and defined contribution plans including Employee Stock Ownership Plan (ESOP), Tax Reduction Act Stock Ownership Plan (TRASOP), thrift, profit sharing, and retirement plans. Services offered include safekeeping of assets, administration of trusts, portfolio accounting, benefit payments.
 - Mutual-to-Stock Conversion: As a stock transfer agent, Bradford's specialized processing service assists savings and loan institutions that are converting from mutual to stock companies. Tasks acomplished include consolidation of accounts, proxy mailing and tabulation, subscription offering, public offering, certificate insurance, ongoing stock transfer, and shareholder services.

- An additional 18% of revenues stem from securities clearance and draft collection services provided for the most part by Bradford Securities Processing Services, Inc. (BSPS) through a network of facilities for commercial banks, municipal bond dealers, and brokers. BSPS had more than 280 clients in 1978. Clearance services include receipt and payment for securities, the delivery of securities and collection of funds. In addition, BSPS provides syndicate packaging services. Specific services include:

 - Fixed Income Accounting Services (FIAS): Available to all bond brokers-dealers, FIAS provides daily reports which are needed to operate a bond business, including transaction recordkeeping and general ledger accounting. FIAS combines clearance and settlement services with back-office recordkeeping and general ledger accounting.
 - Introduced in 1978, the National Draft Service (NDS) is a nationwide network for swift collection of securities drafts.

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- Through its Systems and Facilities Services, Bradford performs systems development and facilities management. Presently, government agencies account for a major part of this work. Examples of current or completed contracts include:

 - Consulting and engineering support for a U.S. Department of Energy building standards plan to encourage the building industry to utilize energy conservation techniques.
 - Automated dispatching of fire engines for New York City.
 - Managing the computer facilities of the Pacific Stock Exchange.
 - The office of Child Support Enforcement in the U.S. Department of Health , Education, and Welfare awarded Bradford a long-term contract to design and develop a model computer system that will aid states in locating and billing absent parents who have failed to make child support payments. HEW will make the system available to interested state agencies in 1979.

INDUSTRY MARKETS Bradford specializes in financial transaction processing and administrative services. The bulk of its clients are financial institutions including bank and trust companies and securities firms. Other industries served are insurance, government agencies, and miscellaneous corporations.

GEOGRAPHIC MARKETS

- Bradford has 3,000 clients nationwide. The majority of clients are concentrated in the New York/Boston/Washington corridor.

- While maintaining five regional data centers, the hub of the system is located in Teaneck, New Jersey. Other regional centers are located in Boston, New York, Pittsburgh, San Francisco, and Los Angeles.

- Bradford's sales offices are located in New York, Boston, Chicago, Sarasota, FL, Dallas, and Los Angeles.

COMPUTER HARDWARE AND SOFTWARE

- The data centers complement of CPU's include:

 - Two IBM 3033s operating under OS.
 - Three IBM 3031s operating under DOS.
 - One IBM 370/148 operating under DOS.
 - One IBM 360/65 operating under DOS.
 - One Itel AS/5-3 operating under DOS.
 - One IBM 370/158-AP operating under OS.

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owns two trust co subs.

COMPANY HIGHLIGHT

BRADFORD NATIONAL CORPORATION
2 Broadway
New York, NY 10004
(212) 480-1600

Peter Del Col, President
Public Corporation, AMEX
Total employees: 2400*
Total revenues, fiscal year
end 12/31/76: $65,804,000
Cptr svc - ?56,744,000

74 - Total - 94,016,000
Cptr svc - ? 80,606,800

THE COMPANY

- Bradford was founded in February 1968 by Donold K. Lourie (retired), Peter Del Col (Chairman of the Board, President, and Chief Executive Officer), Howard Waltman (Executive Vice President), and Sol Seltzer (Executive Vice President). The company initially provided software and systems development services to a few customers, principally the U.S. Government.

- The company determined early to diversify into paper and clerical-intensive services connected to financially-related record keeping. In June 1969, Bradford began the first of such services, its mutual fund services operation.

- Bradford's revenues grew from $57.3 million in 1975 to $65.8 million in 1976, a growth of 14.8%. Net income declined 25% during the same period from $4.0 million to $3.2 million.

- Net income per share declined from $1.02 in 1975 to $.79 in 1976 although dividends per share rose from $.15 in 1975 to $.20 in 1976. Outstanding shares numbered 4.0 million. The company claimed reduced earnings resulted from costs associated with both expansion of facilities and start-up and conversion for newly acquired national accounts.

- Bradford has grown through internal effort as well as external acquisitions and joint ventures.

 - By strategically-placed acquisitions and by successful joint ventures with major banks such as Bankers Trust, Mellon National Bank, and Crocker National Bank, Bradford has become the dominant computer services company in the securities-related record-keeping business.
 - It has developed methods that enable it to efficiently perform many of the banking functions without being a commercial bank and therefore subject to the Bank Company Holding Act of 1956.

*Estimate by Bradford

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- Bradford has a base of technical expertise and experience in electronic transaction processing. As the financial industry moves away from paper-based and toward electronic transactions and record keeping, this expertise will place Bradford in a strong position to move into new business areas aligned with this migration.

- Potential problem areas are loss of large management contracts and discontinuance after 1977 of the contract with National Clearing Corporation.

- On the other hand, Bradford was successful in signing a contract with Chase Manhattan Bank in 1976. This contract was fully operational in January 1977 and should provide for annual revenues in excess of $10 million for Bradford. In addition, Bradford has signed up other business which is expected to provide for at least a $5 million growth in 1977. With additional business yet to be sold and the Chase contract, Bradford should have a healthy growth this year.

KEY PRODUCTS AND SERVICES

- Bradford is one of the leading financial services organizations in the U.S. specializing in providing integrated services involving computer operations and machine-based clerical systems.

- Corporate shareholder services are provided to banks and corporations. They include transfer agent and registrar services, including record keeping for securities transactions, a clearing corporation (TAD) for certificateless transfers, proxy material mailings, and correspondance. Labor intensive services, they have been declining as a proporation of Bradford's total business.

- Mutual fund services are similar in nature to corporate shareholder services but include total funds custody services, subscription processing, dealer orders, confirmation, redemptions and dividends.

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- Trust Services have a custodial function for Bradford Customers total portfolio. Employee benefit services include accounting and record-keeping for pensions, profit-sharing funds, securities safekeeping, delivery, receipt and clearing of securities, and collection and disbursement of all income. Bradford also provides loans to brokers and dealers to facilitate securities clearance activities. Bradford provides banks with a system for calculating principal and income transactions as well as many other options. This profitable segment has been increasing at a considerably faster rate than the rest of the company's business.

- Securities clearance and draft collection services are accomplished by Bradford Securities Processing Services, Inc. (BSPS) through a network of facilities for commercial banks, municipal bond dealers, and brokers. BSPS advances or arranges bank advances of draft collection funds to customers. Interest is charged on the daily balance of such receivables. Other services include receipt and payment for securities, nationwide movement and delivery of securities, and the collection of funds.

 This group includes BSPS, SPS Options Services, Inc., a registered broker dealer, and TAD Depository Corporation, a "clearing corporation" which makes "certificateless transfers" of securities (Bradford has a 20% interest). Bradford also has a facilities management contract with the National Clearing Corporation.

- Systems and Facilities Services are generating a declining proportion of corporate revenues. These Services include: consulting, system design, and training to help government and commercial clients perform more efficiently. Government agencies are the principal clients for this service.

- Banking Services are correspondent banking, personal trust systems, and standard banking packages for commercial banks as well as systems consulting and facilities management services to banks and trust companies.

APPLICATIONS MARKETS Bradford applications are as follows:

Specialty Applications & Services	76%
Facilities Management	5
Professional Services	19
	100%

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INDUSTRY MARKETS At year end 1976, Bradford was serving more than 2,000 corporations and 6,000,000 shareholders with its shareholder services. Through its other services, its customers include 50 mutual funds, 250 corporations and financial institutions, and the Federal Government.

GEOGRAPHIC MARKETS

- Bradford is concentrated heavily in the New York/Boston/Washington corridor which provides well over half of its revenues. The other area of significant market penetration is Los Angeles/San Francisco where Bradford has significant operations with Crocker National Bank among others.

- Bradford has not penetrated the Midwest or South of the U.S. to any extent and does not have significant revenues from any activities outside the U.S.

- The corporation has offices in: New York, Boston, Chicago, Cleveland, Kansas City (MO), Miami, Sarasota (FLA), Dallas, Los Angeles, Minnepolis, Teaneck (NJ), Pittsburgh, San Diego, San Francisco, and Rockville (MD).

COMPUTER HARDWARE AND SOFTWARE

- Bradford operates some 25 processing facilities throughout the U.S. However, many of these are simply remote processing locations connected to one of Bradford's major centers.

- Bradford has major operating centers in Boston, New York, Teaneck, San Francisco, and Los Angeles. In the last several years, Bradford has made a major effort to coordinate its centers on a network. This development is not completed.

- The equipment operated by Bradford is primarily IBM System 360/370s. It still has many DOS systems but is operating in VS1 and VS2 in the major centers.

September 1977

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COMPANY HIGHLIGHT

BRADFORD NATIONAL CORPORATION
1700 Broadway
New York, NY 10019
(21) 581-5800

Peter Del Col, President
Publicly held corporation, traded on the American Stock Exchange
Computer services employees: approximately 2,000
Revenues fiscal year end 12/76: $76 million*

COMPANY BACKGROUND:

- Bradford was founded in February 1968 by Donold K. Lourie (Chairman of the Executive Committee), Peter Del Col (Chairman of the Board, President and Chief Executive Officer), Howard Waltman (Executive Vice President), and Sol Feltzer (Executive Vice President). The company initially provided software and system development services to a few customers, principally the U.S. Government.

- The company determined early to diversify into paper and clerical-intensive services connected to financially-related record keeping. In June 1969, Bradford began the first of such services, its mutual fund services operation.

- The name of the company was changed from Bradford Computer and Systems Inc. to Bradford National Corporation in May 1976. It has 12 services subsidiaries and operates three trust companies.

OVERALL ASSESSMENT:

- By strategically-placed acquisitions and by successful joint ventures with major banks such as Bankers Trust, Mellon National Bank, and Crocker National Bank, Bradford has been able to become the dominant computer services company in the securities-related record-keeping business.

- As the financial industry moves towards electronic record keeping, as opposed to paper shuffling, Bradford's base of technical expertise and experience in electronic transaction processing will place it in a strong position to move into new business areas aligned with this transition.

- One of Bradford's most significant problems is its loss of large management contracts. In 1973, it lost one contract worth $3 million a year in revenues. In 1977, it will lose two contracts worth $10 million a year in revenues. In addition, at least one of its very large stock transfer relationships is questionable.

- On the other hand, Bradford was successful in signing a contract with Chase Manhattan Bank earlier in 1976. This contract should be fully on-stream in January 1977 and should provide for annual revenues in excess of $10 million for Bradford. In addition, Bradford has signed up other business which is expected to provide for at least a $5 million growth in 1977. With additional business yet to be sold and the Chase contract, Bradford should have a healthy growth next year.

KEY PRODUCTS AND SERVICES:

- Bradford provides a variety of services to its financial clients including:

 - Corporate Shareholder Services: Transfer agent and registrar services, including record keeping for securities' transactions, and a clearing corporation (TAD) for certificateless transfers.

 - Mutual Fund Services: All funds custody services, full fund accounting, processing of subscriptions, dealer orders, confirmation, redemptions, dividends, proxies and shareholder correspondence.

 - Trust Services: Employee benefit services including accounting and record-keeping services performed for pension, profit-sharing funds, etc. This includes support for Keogh plans, IRAs, and investment annuity plans. Bradford also provides record-keeping and accounting services for investment advisors, including mutual funds. One of Bradford's fastest growing areas of business is that of custody operations. By the end of 1976, Bradford will have approximately $7 million of assets under custody. Services provided include securities safekeeping, delivery, receipt and clearing of securities, and collection and disbursement of all income.

 - Securities Clearance Draft Collection Services: Receipt and payment for securities, nationwide movement and delivery of securities, and the collection of funds for brokers, commercial banks, and municipal bond dealers.

 - Banking Services: Bradford provides correspondent banking, personal trust systems, and standard banking packages for commercial banks as well as systems consulting and facilities management services to banks and trust companies.

 - Systems and Facilities Services: Bradford provides systems development services and facility management operations to commercial and government clients. Revenues from the Federal Government are estimated to account for one-third of the Systems and Facilities Services revenues in 1975.

- In January 1976, Bradford Trust Company formed an energy and commodities service group whereby Bradford Trust Company will act as the depository and trustee in the financing of nuclear fuel for utilities and inventory for commercial and industrial corporations. Bradford is expected to enter other areas of a similar nature where it acts as a financial intermediary.

APPLICATIONS: Bradford's revenues from its record-keeping and other services for 1975 are distributed as shown below:

SERVICE	$M	%
Corp. Shareholder	$22.3	37%
Mutual Fund	7.4	12
Trust	8.0	13
Securities Clearance	11.2	18
Systems & Facilities	12.4	20
Service Revenue	$61.3	100%
Interest Income (Net)*	5.2	
Other	1.8	
TOTAL REVENUES	$67.3	

- The fastest growing part of Bradford revenues is that from interest.* This has several sources: the most important is the "float", which is excess funds left with Bradford Trust; other sources of interest income are the parent company's own portfolio, primarily of municipal bonds; and SPS financing of customer drafts and clearance items (many Bradford customers leave with the company an interest-bearing deposit for services on which Bradford pays less than the prevailing rate of interest).

INDUSTRY MARKETS: Bradford now serves more than 2,000 corporations and 6,000,000 shareholders with its shareholder services. Through its other services its customers include 50 mutual funds, 250 corporations and financial institutions, and the Federal Government.

GEOGRAPHIC MARKETS:

- Bradford is concentrated heavily in the New York, Boston, Washington corridor which provides well over half of its revenues. The other area of penetration is the Los Angeles-San Francisco corridor were Bradford has significant operations with Crocker National Bank, among others.

- Bradford has not penetrated the Midwest or South of the U.S. to any extent. Bradford does not have significant revenues from any activities outside the U.S.

COMPUTER HARDWARE AND SOFTWARE:

- Bradford operates some 25 processing facilities throughout the U.S. Many of these, however, are simply remote processing locations connected to one or other of Bradford's major centers.

- Bradford has major operating centers in Boston; New York; Teaneck, New Jersey; San Francisco; and Los Angeles. In the last several years, Bradford has made a major effort to coordinate its centers on a network. This development is not completed.

- The equipment operated by Bradford is primarily IBM System 360/370s. They still have many DOS systems but are operating in VS1 and VS2 in the major centers.

INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

March 1996

Brainstorm Technologies, Inc.

President: Rizwan Virk
64 Sidney Street
Cambridge, MA 02139
Phone: (617) 621-0800
Fax: (617) 621-8519
Internet: Http://www.braintech.com

Status:	Private
Employees:	40
Revenue:	$3,000,000*
Fiscal Year End:	12/31/95

* INPUT Estimate

Company Description

Brainstorm Technologies, Inc. provides software solutions for integrating groupware technologies such as Lotus Notes into the electronic commercial enterprise.

- The company provides a suite of integration tools, utilities and services to help organizations manage the design, development, deployment and maintenance of groupware applications with Lotus Notes.
- Brainstorm's suite of Notes integration products include VB/Link, DataLink, OfficeLink and ServerAdmin Plus. The company has also introduced Groupscape, a visual object-oriented development tool.
- Brainstorm also provides consulting servies to assist its clients in all phases of Notes deployment.
- Brainstorm's products are currently used by more than 1,500 organizations in 12 countries and are reportedly used by more than 20% of the organizations that use Lotus Notes.

Brainstorm was founded in 1993 and operates as a private company. Cambridge Technology Group is one of several investors.

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Organization and Structure

Brainstorm Technologies is headquartered in Cambridge (MA).

Key Brainstorm executives are listed below.

Brainstorm Key Executives

Name	Title
Rizwan Virk	President
Mitchell C. Liu	VP Marketing & CTO
George Allen	Director, Consulting Services
Amy Kessler	VP Worldwide Sales

Financials

INPUT estimates Brainstorm's 1995 revenue reached $3 million.

Market Financials

The target market for Brainstorm's products and services is organizations using Lotus Notes.

Geographic Markets

Brainstorm derives revenue from the U.S. and international sources.

Acquisitions

In October 1995, Brainstorm acquired a systems administration tool product from Mauby Technologies. A new, updated version of the product was released as Brainstorm's ServerAdmin Plus v1.5 for Lotus Notes in late 1995.

Employees

Brainstorm currently has approximately 40 employees.

Key Products and Services

By linking Lotus Notes with a client's existing technology, such as application development tools, databases and desktop applications, Brainstorm products help companies speed the deployment cycle of Lotus Notes and increase the return on their investment.

Brainstorm's products fall into four general areas of Lotus Notes integration at the enterprise level—Notes-4GL development tools, Notes-RDBMS integration tools, Notes-desktop integration and Notes-systems administration tools.

VB/Link for Lotus Notes is a point-and-click solution to link Microsoft Visual Basic applications and Lotus Notes data.

- VB/Link allows organizations to create and deploy Windows applications that can read, update and display information stored in Lotus Notes databases.
- Besides Visual Basic, VB/Link supports a range of other graphical development environments, including Microsoft Visual C++, Powersoft PowerBuilder 3.0, Borland C++ 4.0, and Gupta SQL Windows 4.1.
- Among other functions, VB/Link allows companies to create Windows front ends to Lotus Notes databases; perform complex Notes-related tasks outside the Lotus Notes environment; create Notes mail-enabled Visual Basis applications; and implement software "agents" to monitor Lotus Notes databases.
- VB/Link technology has been licensed by Gupta, Borland, Mathsoft and others.
- More than 1,000 organizations worldwide have developed mission-critical applications using VB/Link.

DataLink for Lotus Notes is a point-and-click, scalable, client-based solution for migrating

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data between Lotus Notes and corporate databases.

- It enables organizations to perform both ad hoc and scheduled data transfers between Lotus Notes and all databases that comply with the open database connectivity (ODBC) application integration standard, including Oracle, Sybase, Informix and SQLServer.
- The latest release over DataLink, version 2.0, incorporates Notes-to-Notes data migration and synchronization and server support for OS/2 and Windows NT.
- DataLink is currently being used by more than 400 organizations worldwide.

OfficeLink for Lotus Notes links Lotus Notes and Microsoft Office applications.

- Windows desktop users can transparently capture and share all Word and Excel documents via Lotus Notes without ever leaving the Office application.
- OfficeLink for Lotus Notes allows users to leverage the power of Notes for Word/Excel document storage, management, version control and team computing.
- Brainstorm introduced version 2.0 of OfficeLink for Lotus Notes in December 1995. It runs in Windows 3.X, Windows for Workgroups, Windows NT and Windows 95 operating systems. The suggested retail price is $99 per client; server pricing begins at $199, with volume discounts available for site licenses.

ServerAdmin Plus (SA+) for Lotus Notes provides system administrators and users with tools to manage a complex Notes network.

- SA+ bundles ACL, replication, server statistics and database management tools with an enhanced server console screen.
- SA+ runs under Windows 3.X and Windows 95. Pricing begins at $895 per server.

Groupscape v1.0, announced in January 1996, is a visual object-oriented development tool for building and extending business-critical Lotus Notes workgroup applications to the World Wide Web.

- Groupscape enables organizations to standardize on Netscape as the universal front end to Notes and build corporate intranet applications.
- Groupscape also allows all existing corporate Notes applications to be integrated into and accessible via Netscape browers.
- Groupscape Notes Browser is an interactive Netscape/Groupscape application that lets corporate users view, browse, and surf internal Notes networks and provides a sample of types of applications that can be built using Groupware. The product is downloadable for free from Brainstorm's Web site.
- Groupscape Standard Edition enables users to build interactive Web applications interated with local Notes databases via a point-and-click tool using Visual Basic-compatible language. Groupscape Standard is priced at $995 per developer seat with no run-time fees.
- Groupscape Pro Edition extends the capabilities of Groupscape Standard by supporting connectivity with remote Notes servers on Windows NT, NetWare NLM, UNIX and O/2, as well as with enterprise relational databases such as Oracle, Sybase,

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Informix and DB2 via ODBC. It is priced at $3,995 per developer with no run-time fees.

- Groupscape Enterprise Edition allows developers to build servers with secure access to client/server and legacy systems for transaction-based applications and global electronic commerce. Pricing has not yet been finalized.

Support Services

Brainstorm's Premium Technical Support is an annual software support plan that provides the following:

- 30-day free introductory support for installation and set-up
- After 30 days, one year unlimited, multiple incident support for a flat fee
- Priority service
- Free updates and product point releases
- Free all major upgrades
- Support hours are Monday through Friday 9:00 am to 6:00 pm EST, excluding U.S. holidays.
- Premium Technical Support is a flat price per product.

Professional Services

The Brainstorm Consulting Services Group offers a range of consulting services in the area of corporate data integration. The group assists organizations in all phases of Notes deployment, including installation, designing and developing pilot applications and on-site training. Specific services include:

- Development of data access and integration procedures for linking relational or legacy systems and Lotus Notes
- Development of front-end Windows GUI application programs and tools
- Design, development and deployment of relational and Lotus Notes database systems
- Customized low-level Notes and relational database programming

Marketing and Sales

Brainstorm's software products are sold directly from Brainstorm and through Egghead Software Corporate sales and the Brainstorm Buyers Guide.

The company markets consulting services through a direct sales force.

Brainstorm has resellers in the following countries:

- Australia (Novous Pty Limited; Neural Solutions)
- New Zealand (Pritech Corporation Ltd.)
- U.K. (Doran Essen Consultants Ltd.)
- Japan (Soliton Systems K.K.)
- Germany (Tracker Software GmbH)
- France (Apsylog)
- Sweden (LINQ Systems AB)

Alliances

Brainstorm is a Premiere Business Partner for Lotus Notes.

Competition

Brainstorm's competitors vary by product and include Casahl (DataLink), DSSI (ServerAdmin Plus) and Edge Research, Inc. (VBLink).

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BRANDON SYSTEMS CORPORATION

One Harmon Plaza
Secaucus, NJ 07094
Phone: (201) 392-0800
Fax: (201) 392-0405

Chairman, President, & CEO:	Ira B. Brown
Status:	Public Corporation
Stock Exchange:	NASDAQ
Total Employees:	196
Total Revenue:	$45,293,000
Fiscal Year End:	9/27/92

Key Points

- Historically, Brandon Systems maintained separate organizations for marketing its technical and professional computer services to clients. During fiscal 1992, Brandon Systems implemented a new marketing strategy, whereby each branch office offers the full range of the company's services.
- Brandon Systems believe that revenues for its services will continue to increase as a result of this new marketing strategy, its geographical expansion in recent years, and a continued industry trend toward outsourcing and training.
- Insourcing is the name Brandon Systems has given to long-term agreements for the management and support of its clients' information systems. These services, which are provided through the Brandon FSM division, have continued to increase, representing 7% of total revenue in fiscal 1992, compared to 4% of total revenue in fiscal 1991.

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Company Description

Brandon Systems, founded in 1968, provides a range of professional and outsourcing services to large-scale computer users.

Brandon Systems is currently organized into the following units:

- *Technical Computer Services:* The SYSTEMP[R] Division provides operations and technical support services personnel on an as-needed basis to large computer installations. This business contributed approximately 71% to Brandon Systems' fiscal 1992 revenue.
- *Insourcing Services*: The Brandon FSM division offers contracts for the long-term operation of data center functions, communications facilities, and internal office systems. This unit contributed approximately 7% to Brandon Systems' fiscal 1992 revenue.
- *Professional Computer Services:* Brandon Systems Group (formerly Brandon Consulting Group) provides system development and consulting professional services. This unit contributed approximately 21% to Brandon Systems' fiscal 1992 revenue.
- *Training Services*: The Brandon Training Group offers technical training courses at client sites or at Brandon systems' training center in New York City. This unit contributed 1% to Brandon Systems' fiscal 1992 revenue.

Financials

Fiscal 1992 revenue reached $45.3 million, a 19% increase over fiscal 1991 revenue of $37.9 million. Net income rose nearly 33%, from nearly $2 million in fiscal 1991 to over $2.6 million in fiscal 1992. A five-year financial summary follows:

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BRANDON SYSTEMS CORPORATION
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR				
ITEM	9/92	9/91	9/90	9/89	9/88
Revenue	$45.3	$37.9	$35.4	$29.9	$27.7
· Percent increase from previous year	19%	7%	18%	8%	25%
Income before taxes	$4.3	$2.9	$3.4	$2.9	$3.4
· Percent increase (decrease) from previous year	48%	(15%)	18%	(15%)	13%
· Gross margin	9%	8%	10%	10%	12%
Net income	$2.6	$2.0	$2.3	$2.0	$2.1
· Percent increase (decrease) from previous year	33%	(13%)	19%	(5%)	31%
· Net margin	6%	5%	7%	7%	8%
Earnings per share (a)	$0.60	$0.45	$0.54	$0.45	$0.50
· Percent increase (decrease) from previous year	33%	(17%)	225%	(10%)	N/A

(a) Restated to reflect a 5-for-4 stock split on June 18, 1992.

Brandon Systems' management attributes revenue growth to increases in the volume for all services provided by the company and also continued growth from offices opened in recent years.

- Technical computer services revenue increased 17% in fiscal 1992, while professional computer services revenue increased 9% during the year. These increases resulted primarily from increased volume with existing customers.

- Insourcing and training revenues increased 96% during fiscal 1992, primarily as a result of Brandon Systems increasing the number of data centers it insources.

Employees

As of September 27, 1992, Brandon Systems employed 196 salaried persons (other than temporary employees on assignment to clients), generating revenue of $231,087 per employee. These employees are segmented as follows:

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Employee Category	Number	Percent of Total
Sales and employee recruitment	95	48%
Professional computer support	17	9%
Secretarial and clerical	26	13%
Executive and administrative	58	30%
Total Employees	196	100%

During the fiscal year ending September 29, 1992, the company employed approximately 5,500 hourly technicians and 30 salaried technicians on assignments to approximately approximately 900 clients.

Key Products and Services

Approximately 93% of Brandon Systems' fiscal 1992 revenue was derived from professional services (SYSTEMP^{R}, Brandon Systems Group, and Brandon Training Group) and 7% from outsourcing (Brandon FSM).

Technical Services:

Under its SYSTEMP^{R} trademark, the company provides technical support personnel to clients on a temporary or full-time basis. Assignments have involved from one to as many as 90 Brandon Systems technicians and may range from one day to several years. Technical services provided include:

- Computer operations
- Operations analysis
- Communications support, monitoring and testing, and installation
- Operations support, including controlling data input and output, data distribution, and storage and retrieval
- Personal computer services, including installation and maintenance of LAN networks; designing, developing, operating, and maintaining software and data bases; and installing and maintaining PC hardware
- In August 1990, Brandon Systems acquired The Resource Group, Inc., a Boston-area supplier of computer technical services, for approximately $200,000. The acquisition expanded the company's SYSTEMP^{R} services to Northern New England.

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Professional Computer Services:

Through Brandon Systems Group, the company provides professional computer consulting services to system developers and computer users.

- Services performed include systems analysis, systems design, application development, and programming for most large-scale computers, minicomputers, and microcomputers, with an emphasis on data base and on-line applications.
- Other services include EDP planning and implementation, management audits, computer security planning, training, and the application of efficiency standards.
- The Brandon Systems Group is typically engaged by clients to provide its services for periods ranging from one month to several years under a contract arrangement.
- During fiscal 1991, the group was selected to assist the State of Colorado in its automation efforts.

Training Services:

The Brandon Training Group provides instruction in open systems technologies and in office automation to information systems managers, software engineers, and end users.

- Courses are available at client sites or at Brandon Systems' training center in New York City.
- Historically, training services have been offered to existing and prospective customers and have not generated significant revenues.

Outsourcing Services:

Through Brandon FSM, long-term contracts are provided for the operation of clients' data centers, telecommunications centers, and administrative facilities.

Brandon Systems refers to certain long-term contracts as "insourcing," whereby it commits to perform in functional areas of computer operations and/or computer programming under the general direction of clients' information systems management (the client maintains functional control of activities insourced).

Brandon Systems currently has ten data processing centers under contract.

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FSM insourcing contracts usually are for multiple years and require Brandon Systems to furnish its clients with a stipulated service level at a fixed price. Contracts are usually billed to clients on a monthly basis.

Industry Markets

Brandon Systems' clients consist primarily of industrial firms, investment banking firms, banks, utilities, telecommunications companies, major corporations, and government agencies.

During fiscal 1992, 1991, and 1990, no single customer represented more than 10% of total revenue. Sales to five major operating units of AT&T accounted for $4.5 million and $4.7 million of Brandon Systems' revenue for fiscal 1989 and 1988, respectively.

Geographic Markets

All of Brandon Systems' fiscal 1992 revenue was derived from the U.S. Most of the company's customers are located in major metropolitan areas.

The company currently maintains offices in New York City and Westbury (NY); Edison, Secaucus, and East Rutherford (NJ); Philadelphia (PA); Chicago (IL); Houston and Irving (TX); Independence (OH); Los Angeles, Orange, and Oakland (CA); Milwaukee (WI); Atlanta (GA); Denver (CO); Stamford (CT); Boston (MA); Reston (VA); and Wilmington (DE).

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BRANDON SYSTEMS CORPORATION
One Harmon Plaza
Secaucus, NJ 07094
(201) 392-0800

Ira B. Brown, Chairman, President, and CEO
Public Corporation, NASDAQ
Total Employees: 204
Total Revenue, Fiscal Year End 9/29/91: $37,898,000

The Company

Brandon Systems Corporation, founded in 1968, provides a range of professional and outsourcing services to large-scale computer users.

Brandon Systems is organized into the following units:

- *Technical Services:*
 - The SYSTEMP[R] Division provides operations and technical support services personnel on an as-needed basis to large computer installations. This business contributed approximately 72% to Brandon Systems' fiscal 1991 revenue.
 - The Brandon FSM division offers contracts for the long-term operation of data center functions, communications facilities, and internal office systems. This unit contributed approximately 4% to Brandon Systems' fiscal 1991 revenue.
- *Professional Computer Services:*
 - Brandon Consulting Group provides system development and consulting professional services. This unit contributed approximately 22% to Brandon Systems' fiscal 1991 revenue.
 - The Brandon Training Group offers technical training courses at client sites or at Brandon systems' training center in New York City. This unit contributed 2% to Brandon Systems' fiscal 1991 revenue.

Fiscal 1991 revenue reached $37.9 million, a 7% increase over fiscal 1990 revenue of $35.4 million. Net income was $2.0 million in fiscal 1991, compared to $2.3 million in fiscal 1990. A five-year financial summary follows:

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BRANDON SYSTEMS CORPORATION
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR				
ITEM	9/91	9/90	9/89	9/88	9/87
Revenue	$37.9	$35.4	$29.9	$27.7	$22.1
· Percent increase from previous year	7%	18%	8%	25%	24%
Income before taxes	$2.9	$3.4	$2.9	$3.4	$3.0
· Percent increase (decrease) from previous year	(15%)	18%	(15%)	13%	20%
· Gross margin	8%	10%	10%	12%	14%
Net income	$2.0	$2.3	$2.0	$2.1	$1.6
· Percent increase (decrease) from previous year	(13%)	19%	(5%)	31%	33%
· Net margin	5%	7%	7%	8%	7%
Earnings per share (a)	$0.57	$0.67	$0.57	$0.62	$0.50
· Percent increase (decrease) from previous year	(15%)	18%	(8%)	24%	N/A

(a) Restated to reflect a 25% stock split on March 1, 1991.

Brandon Systems' management attributes revenue growth to increases in both technical and professional services revenue and the continued growth of business from branch office openings in recent years.

- Technical services revenue, including revenue from outsourcing contracts, increased 8% in fiscal 1991. Brandon Systems believes that revenues from these services will continue to increase as a result of its geographical expansion in recent years and a growing trend towards outsourcing.

- Professional computer services revenue increased 3% during the year, due primarily to the continued growth of Brandon Consulting Group's new branch offices opened in prior years.

As of September 29, 1991, Brandon Systems employed 204 salaried persons (other than temporary employees on assignment to clients), generating revenue of $185,775 per employee. These employees are segmented as follows:

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Employee Category	Number	Percent of Total
Sales and employee recruitment	83	41%
Professional computer support	40	20%
Secretarial and clerical	23	11%
Executive and administrative	58	28%
Total Employees	204	100%

During the fiscal year ending September 29, 1991, the company furnished approximately 5,500 temporary hourly personnel, 450 full-time hourly employees, and 60 salaried employees to approximately 900 clients.

Key Products and Services

Approximately 96% of Brandon Systems' fiscal 1991 revenue was derived from professional services (SYSTEMP[R], Brandon Consulting Group, and Brandon Training Group) and 4% from outsourcing (Brandon FSM).

Technical Services:

Under its SYSTEMP[R] trademark, the company provides technical support personnel to clients on a temporary or full-time basis. Assignments have involved from one to as many as 90 Brandon Systems' technicians and may range from one day to several years. Technical services provided include:

- Computer operations
- Operations analysis
- Communications support, monitoring and testing, and installation
- Operations support, including controlling data input and output, data distribution, and storage and retrieval
- Personal computer services, including installation and maintenance of LAN networks; designing, developing, operating, and maintaining software and data bases; and installing and maintaining PC hardware

SYSTEMP[R] has offices in New York, New Jersey, Pennsylvania, Texas, California, Wisconsin, Georgia, Colorado, Connecticut, Massachusetts, Illinois, and Delaware.

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- In August 1990, Brandon Systems acquired The Resource Group, Inc., a Boston-area supplier of computer technical services, for approximately $200,000. The acquisition expanded the company's SYSTEMP[R] services to Northern New England.

Through Brandon FSM, long-term contracts are provided for the operation of clients' data centers, telecommunications centers, and administrative facilities.

Professional Computer Services:

Through Brandon Consulting Group, the company provides professional computer consulting services to major corporate clients.

- Services performed include systems analysis, systems design, and programming for most large-scale computers, minicomputers, and microcomputers, with an emphasis on data base and on-line applications. Other services include EDP planning and implementation, management audits, computer security planning, training, and the application of efficiency standards.

- Services are offered at client sites and from offices in New York, New Jersey, Georgia, Connecticut, Colorado, Virginia, and Connecticut. Assignments last from several weeks to several months.

- During fiscal 1991, the group was selected to assist the State of Colorado in its automation efforts.

The Brandon Training Group provides courses in UNIX and AIX operating systems, X-Windows and "C" programming technologies, and office automation to information systems managers, software engineers, and end users.

- Courses are available at client sites or at Brandon Systems' training center in New York City.

- Clients include major telecommunication companies and large financial institutions.

Industry Markets

Brandon Systems' clients consist primarily of industrial firms, investment banking firms, banks, utilities, telecommunications companies, major corporations, and government agencies.

During fiscal 1991 and 1990, no single customer represented more than 10% of total revenue. Sales to five major operating units of

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AT&T accounted for $4.5 million and $4.7 million of Brandon Systems' revenue for fiscal 1989 and 1988, respectively.

Geographic Markets

All of Brandon Systems' fiscal 1991 revenue was derived from the U.S. Most of the company's customers are located in major metropolitan areas.

The company currently maintains offices in New York City and Long Island (NY); Edison, Secaucus, and Parsippany (NJ); Philadelphia (PA); Chicago (IL); Houston and Dallas (TX); Los Angeles, Orange County, and Oakland (CA); Milwaukee (WI); Atlanta (GA); Denver (CO); Stamford (CT); Boston (MA); Reston (VA); and Wilmington (DE).

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BRANDON SYSTEMS CORPORATION
One Harmon Plaza
Secaucus, NJ 07094
(201) 392-0800

Ira B. Brown, Chairman, President, and CEO
Public Corporation, NASDAQ
Total Employees: 188
Total Revenue, Fiscal Year End 9/30/90: $35,384,000

The Company

Brandon Systems Corporation, founded in 1968, provides a range of professional and systems operations services to large-scale computer users.

Brandon Systems is organized into the following units:

- The SYSTEMP[R] Division provides operations and technical support services personnel on an as-needed basis to large computer installations.
- Brandon Consulting Group provides system development and consulting professional services. The Brandon Training Group, part of Brandon Consulting Group, offers technical training courses.
- The Brandon FSM division offers contracts for the long-term operation of data center functions, communications facilities, and internal office systems.

In August 1990, Brandon Systems acquired The Resource Group, Inc., a Boston-area supplier of computer technical services, for approximately $200,000. The acquisition expands the company's SYSTEMP[R] services to Northern New England.

Fiscal 1990 revenue reached $35.4 million, an 18% increase over fiscal 1989 revenue of $29.9 million. Net income rose 19%, from $2.0 million in fiscal 1989 to $2.3 million in fiscal 1990. A five-year financial summary follows:

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BRANDON SYSTEMS CORPORATION
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR					
ITEM	9/90	9/89	9/88	9/87	9/86	CAGR
Revenue	$35.4	$29.9	$27.7	$22.1	$17.8	15%
• Percent increase from previous year	18%	8%	25%	24%	66%	
Income before taxes	$3.4	$2.9	$3.4	$3.0	$2.5	6%
• Percent increase (decrease) from previous year	18%	(15%)	13%	20%	150%	
• Gross margin	10%	10%	12%	14%	14%	
Net income	$2.3	$2.0	$2.1	$1.6	$1.2	14%
• Percent increase (decrease) from previous year	19%	(5%)	31%	33%	140%	
• Net margin	7%	7%	8%	7%	7%	
Earnings per share	$0.84	$0.71	$0.78	$.62	$.0.56	8%
• Percent increase (decrease) from previous year	18%	(9%)	26%	11%	N/A	

Brandon Systems' management attributes revenue growth to increases in both technical (SYSTEMP^{R}) and professional services revenue and reflects the continued growth of business from branch office openings in recent years.

- Technical services revenue increased 14% during fiscal 1990. Four new SYSTEMP^{R} offices were opened during the year and additional offices are planning during fiscal 1991.

- Professional services revenue increased 33% during the year, due primarily to the continued growth and expansion of Brandon Consulting Group, which opened three new branch offices in fiscal 1990.

Revenue for the three months ending December 31, 1990 reached $9.6 million, a 22% increase over $7.9 million for the same period in 1988. Net income was $581,000, compared to $575,000 for the same period a year ago.

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As of September 30, 1990, Brandon Systems employed 188 salaried persons (other than temporary employees on assignment to clients), generating revenue of $188,213 per employee. These employees are segmented as follows:

Employee Category	Number	Percent of Total
Sales and employee recruitment	92	49%
Professional computer support	22	12%
Secretarial and clerical	25	13%
Executive and administrative	49	26%
Total Employees	188	100%

During the fiscal year ending September 30, 1990, the company furnished approximately 4,950 temporary hourly personnel, 300 full-time hourly employees, and 35 salaried employees to approximately 900 clients.

Key Products and Services

Approximately 75% of Brandon Systems' fiscal 1990 revenue was derived from both technical personnel services and 25% from professional information services. A three-year summary of source of revenue follows:

BRANDON SYSTEMS CORPORATION
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	9/90		9/89		9/88	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Technical services	$26.5	75%	$23.4	78%	$19.7	71%
Professional services	8.9	25%	6.5	22%	8.0	29%
TOTAL	**$35.4**	**100%**	**$29.9**	**100%**	**$27.7**	**100%**

Technical information services:

Under its SYSTEMP[R] trademark, the company provides technical support personnel to clients on a temporary or full-time basis.

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Assignments have involved from one to as many as 90 Brandon Systems' technicians and may range from one day to several years. Technical services provided include:

- Computer operations
- Operations analysis
- Communications support, monitoring and testing, and installation
- Operations support, including controlling data input and output, data distribution, and storage and retrieval
- Personal computer services, including installation and maintenance of LAN networks; designing, developing, operating, and maintaining software and data bases; and installing and maintaining PC hardware

During fiscal 1990, SYSTEMP[R] expanded into Boston, Denver, Dallas, and Orange (CA) and now has 17 offices in New York, New Jersey, Pennsylvania, Texas, California, Wisconsin, Georgia, Colorado, Connecticut, Massachusetts, and Illinois.

Through Brandon FSM, long-term contracts are provided for the operation of clients' data centers, telecommunications centers, and administrative facilities.

Professional information services:

Through Brandon Consulting Group, the company provides professional computer consulting services to major corporate clients. These services contributed 25% to fiscal 1990 revenue.

- Services performed include systems analysis, systems design, and programming for most large-scale computers, minicomputers, and microcomputers, with an emphasis on data base and on-line applications. Other services include EDP planning and implementation, management audits, computer security planning, training, and the application of efficiency standards.
- During the year, the group expanded to Albany (NY), Arlington, and Atlanta, and moved its White Plains (NY) office to Stamford (CT). Services are now available from eight offices in New York, New Jersey, Georgia, Connecticut, Colorado, and Virginia. Assignments last from several weeks to several months.

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The Brandon Training Group provides courses in UNIX and AIX operating systems, X-Windows and "C" programming technologies, and office automation to information systems managers, software engineers, and end users.

- Courses are available at client sites or at Brandon Systems' training center in New York City.
- During fiscal 1990, Brandon Systems was awarded contracts for training 1,200 New York City Human Resource Administration employees in office automation technology.
- Other clients include major telecommunications companies and large financial institutions.

Industry Markets

Brandon Systems' clients consist primarily of industrial firms, investment banking firms, banks, utilities, telecommunications companies, major corporations, and government agencies.

During fiscal 1990, no one customer represented more than 10% of total revenue. Sales to five major operating units of AT&T accounted for $4.5 million and $4.7 million of Brandon Systems' revenue for fiscal 1989 and 1988, respectively.

Geographic Markets

All of Brandon Systems' fiscal 1990 revenue was derived from the U.S. Most of the company's customers are located in major metropolitan areas.

The company currently maintains offices in New York City, Albany, and Long Island (NY); Edison, Secaucus, and Parsippany (NJ); Philadelphia (PA); Chicago (IL); Houston and Dallas (TX); Los Angeles, Orange County, and Oakland (CA); Milwaukee (WI); Atlanta (GA); Denver (CO); Stamford (CT); Boston (MA); Arlington (VA); and Wilmington (DE).

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BRANDON SYSTEMS CORPORATION
One Harmon Plaza
Secaucus, NJ 07094
(201) 392-0800

Ira B. Brown, Chairman, President, and CEO
Public Corporation, OTC
Total Employees: 162
Total Revenue, Fiscal Year End 10/1/89: $29,949,000

The Company

Brandon Systems Corporation, founded in 1968, provides technical and professional information services to large-scale computer users.

Brandon Systems is organized into the following units:

- The SYSTEMP[R] division provides temporary technical information services personnel.
- The Brandon Consulting Group division provides system development and consulting professional services. The Brandon Training Group, part of Brandon Consulting Group, offers technical training courses.
- The Brandon FSM division offers contracts for the long-term operation of data center functions, communications facilities, and internal office systems.

Fiscal 1989 revenue reached $29.9 million, an 8% increase over fiscal 1988 revenue of $27.7 million. Net income decreased from $2.1 million in fiscal 1988 to approximately $2.0 million in fiscal 1989. A five-year financial summary follows:

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BRANDON SYSTEMS CORPORATION
FIVE-YEAR FINANCIAL SUMMARY
($ millions)

	FISCAL YEAR					
ITEM	1989	1988	1987	1986	1985	CAGR
Revenue	$29.9	$27.7	$22.1	$17.8	$10.7	23%
• Percent increase (decrease) from previous year	8%	25%	24%	66%	29%	
Income before taxes	$2.9	$3.4	$3.0	$2.5	$1.0	24%
• Percent increase (decrease) from previous year	(15%)	13%	20%	150%	11%	
• Gross margin	10%	12%	14%	14%	9%	
Net income	$2.0	$2.1	$1.6	$1.2	$0.5	33%
• Percent increase (decrease) from previous year	(5%)	31%	33%	140%	30%	
• Net margin	7%	8%	7%	7%	5%	

Brandon Systems' management attributes revenue growth primarily to increased acceptance of the use of temporary technical personnel by managers of large-scale data centers. The decline in net income was due to costs in opening new offices and a decline in assignments for the Brandon Consulting Group in the New York City financial services sector.

Revenue for the three months ending December 31, 1989 reached $7.9 million, compared to $7.3 million for the same period in 1988. Net income for the same period rose 8.5% from $503,000 in 1988 to $575,000 in 1989.

As of October 1, 1989, Brandon Systems employed 162 salaried persons (other than temporary employees on assignment to clients) as follows:

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Employee Category	Number	Percent	Revenue Per Employee
Sales and employee recruitment	66	41%	--
Professional computer support	33	20%	--
Secretarial and clerical	19	12%	--
Executive and administrative	44	27%	--
Total Employees	162	100%	$184,870

During the fiscal year ended October 1, 1989, the company furnished approximately 4,600 temporary personnel, 150 full-time hourly employees, and 50 salaried employees to approximately 800 clients.

Key Products and Services

Brandon Systems' fiscal 1989 revenue was derived from both technical and professional information services.

Technical information services:

- Under its SYSTEMP[R] trademark, the company provides technical support personnel to clients on a temporary basis. Temporary employees are selected from a pre-screened pool of approximately 7,000 candidates. Technical computer services personnel include computer operators, operations analysts, network analysts, and data support personnel. The company offers these personnel from its offices in New York, New Jersey, Pennsylvania, Texas, California, Wisconsin, Georgia, Colorado, Connecticut, and Illinois. Assignments last from one day to several years.

- Through Brandon FSM, long-term contracts are provided for the operation of clients' data centers, telecommunications centers, and administrative facilities.

- Technical information services contributed 78%, 71%, and 64% to fiscal 1989, 1988, and 1987 revenue, respectively.

Professional information services:

- Through Brandon Consulting, the company provides professional computer support personnel to large-scale computer users on a temporary basis.

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- Services performed include systems analysis, systems design, and programming for most large-scale computers, minicomputers, and microcomputers, with an emphasis on data base and on-line applications. Other services include EDP planning and implementation, management audits, computer security planning, training, and the application of efficiency standards.

- The company offers these personnel from its offices in New York, New Jersey, Georgia, and Colorado. Assignments last from several weeks to several months.

- The Brandon Training Group provides courses in UNIX, AIX, "C", and Ada technologies and programming to users of large and medium-sized mainframe computers as well as mini- and personal computer systems. "Partnering" programs are also offered for the on-site training of both Brandon's and the client's technical staff.

- Brandon Consulting contributed 22%, 29%, and 36% to fiscal 1989, 1988, and 1987 revenue, respectively.

Industry Markets

Brandon Systems' clients consist primarily of investment banking and brokerage firms, money-center banks, utilities, telecommunications companies, and Fortune 500 corporations.

During fiscal 1989, sales to five major operating units of AT&T accounted for more than 10% of Brandon Systems' revenue.

Geographic Markets

All of Brandon Systems' fiscal 1989 revenue was derived from operations in the U.S.

The company currently maintains offices in Los Angeles and Oakland (CA), Denver (CO), Stamford (CT), Atlanta (GA), Chicago (IL), Edison, Secaucus, and Parsippany (NJ), Carle Place, New York City, and White Plains (NY), Philadelphia (PA), Houston (TX), and Milwaukee (WI).

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COMPANY PROFILE

BRANDON SYSTEMS CORPORATION
One Harmon Plaza
Secaucus, NJ 07094
(201) 392-0800

Ira B. Brown, Chairman, President, and CEO
Public Corporation, OTC
Total Employees: 600 (Full-Time and Temporaries)
Total Revenue, Fiscal Year End 9/30/86: $17,800,000

THE COMPANY

- Brandon Systems Corporation, founded in 1968, provides technical and professional computer services to large-scale computer users.
 - Through its SYSTEMP® service, the company provides technical computer services personnel to business clients on a temporary basis.
 - Through its Brandon Consulting division, the company provides system development and consulting professional services.
- In February 1987, Brandon Systems made an initial public offering of 700,000 shares of common stock, of which 560,000 shares were sold by the company and 140,000 shares were sold by selling shareholders. Estimated net proceeds of $5.4 million will be used to repay bank debt, for expansion into new metropolitan areas, and for working capital.
- Fiscal 1986 revenue reached $17.8 million, a 66% increase over fiscal 1985 revenue of $10.7 million. Net income rose 134% from $498,000 in fiscal 1985 to approximately $1.2 million in fiscal 1986. A four-year financial summary follows:

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BRANDON SYSTEMS CORPORATION
FOUR-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	9/86	9/85	9/84	9/83
Revenue	$ 17,800	$ 10,711	$ 8,283	$ 5,143
. Percent increase from previous year	66%	29%	61%	19%
Income before taxes	$ 2,465	$ 1,003	$ 921	$ 168
. Percent increase from previous year	146%	9%	448%	41%
Net income	$ 1,164	$ 498	$ 434	$ 69
. Percent increase from previous year	134%	15%	529%	17%
Earnings per share	$ 0.67	$ 0.29	$ 0.25	$ 0.04
. Percent increase from previous year	131%	16%	525%	33%

- Brandon Systems' management attributes its recent growth in revenue and net income primarily to increased acceptance by managers of large-scale data centers of the use of temporary technical personnel.

- Revenue for the three months ending December 31, 1986 reached $4.9 million, compared to $4.0 million for the same period in 1985. Net income rose 33% from $227,000 to $301,000.

- As of January 15, 1987, Brandon Systems employed 88 salaried persons (other than temporary employees on assignment to clients) as follows:

Sales and employee recruitment	43
Professional computer support	16
Secretarial and clerical	9
Executive and administrative	20
	88

 - During the fiscal year ended September 30, 1986, the company furnished approximately 1,580 temporary personnel and 120 individual subcontractors to approximately 440 clients.

 - At January 15, 1987, approximately 500 temporary personnel, 14 salaried company employees, and 9 subcontracting firms were on assignment to 137 clients.

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KEY PRODUCTS AND SERVICES

- One hundred percent of Brandon Systems' fiscal 1986 revenue was derived from technical and professional computer services.
 - Under its SYSTEMP trademark, the company provides technical support personnel to clients on a temporary basis.
 - Technical computer services personnel provided by Brandon Systems include computer operators, operations analysts, network analysts, and data support personnel.
 - The company offers these personnel from its offices in New York, New Jersey, Pennsylvania, Texas, and Illinois. Assignments have lasted from one day to several years.
 - SYSTEMP technical computer support personnel are temporary employees selected from a pre-screened pool of approximately 7,000 candidates.
 - As of January 15, 1987, approximately 440 SYSTEMP temporary personnel were on assignment to 118 clients at hourly rates ranging from $8 to $35.
 - SYSTEMP operations contributed 61%, 58%, and 58% to fiscal 1986, 1985, and 1984 revenues, respectively.
 - Through Brandon Consulting, the company provides professional computer support personnel to large-scale computer users on a temporary basis.
 - Services performed include systems analysis, systems design, and programming for most large-scale computers and minicomputers, with an emphasis on data base and on-line applications. Other services include EDP planning and implementation, management audits, computer security planning, and training.
 - The company offers these personnel from its offices in New York and New Jersey. Assignments have lasted from several weeks to several months.
 - As of January 15, 1987, 14 salaried company employees, 9 subcontracting firms, and approximately 56 hourly employees selected from a pre-screened pool of approximately 1,500 candidates were on assignment to furnish professional computer services to 19 clients at hourly rates ranging from approximately $28 to $80.
 - Brandon Consulting contributed 39%, 42%, and 42% to fiscal 1986, 1985, and 1984 revenues, respectively.

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- Brandon Systems recently began the expansion of its technical support personnel business to include long-term projects in which a majority of a client's technical computer personnel would consist of long-term Brandon Systems employees. The company is presently marketing this service, has recently hired four long-term hourly technical services employees and is considering hiring additional long-term hourly employees to staff facilities for potential customers. As of January 15, 1987, the company had not been engaged for any such projects.

INDUSTRY MARKETS

- Brandon Systems' clients consist primarily of investment banking and brokerage firms, money-center banks, utilities, and telecommunications companies and Fortune 500 corporations.

- In the first quarter of fiscal 1987, AT&T accounted for approximately 12.5% of revenue.

GEOGRAPHIC MARKETS

- One hundred percent of Brandon Systems' fiscal 1986 revenue is derived from the U.S.

- The company currently maintains offices in New York City and White Plains (NY), Edison and Secaucus (NJ), Philadelphia, Chicago, and Houston. An office has recently been opened in Los Angeles.

- The company plans to expand its operations to three additional metropolitan areas during 1987. Areas currently being considered for expansion include Atlanta, Boston, Dallas, Denver, Detroit, Milwaukee, San Francisco, and Washington, D.C.

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Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

October 1995

Broadway & Seymour, Inc.

Chairman & CEO: William W. Neal III
President & COO: Alan C. Stanford
128 South Tryon Street
Charlotte, NC 28202-5050
Phone: (800) 274-9287
Fax: (704) 344-3542



BROADWAY & SEYMOUR
INFORMATION TECHNOLOGY SOLUTIONS

Status:	Public
Employees:	1,122 (6/95)
1994 Revenue:	$132,858,000
Fiscal Year End:	12/31/94

Key Points

- Broadway & Seymour is an information technology company providing integrated business solutions to the financial services and other selected markets worldwide.
- In August 1995, Broadway & Seymour entered into an alliance with Fidelity Investments to jointly integrate and market their trust processing and investment capabilities for bank trust and investment institutions.
- The acquisition of BancCorp Systems in early 1995 expanded Broadway & Seymour's offerings in the areas of trust accounting software for PCs and midrange computers marketed principally to financial institutions and not-for-profit organizations.
- The acquisition of EBG & Associates, also in early 1995, added retirement plan administration software to Broadway & Seymour's software product offerings.
- Acquisitions made during 1994 added an integrated decision-support platform for

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commercial and private U.S. banks and accounting and management software for legal and accounting firms.

- In mid-1995, Broadway & Seymour sold its LIBERTY community bank products and services to Jack Henry & Associates.

- In December 1994, Medaphis Corporation, a Broadway & Seymour systems integration client, assumed ownership of its contract with Broadway & Seymour, acquired Broadway & Seymour's Gateway document conversion operations and acquired some of Broadway & Seymour's non-bank systems integration contracts.

- During 1994, Broadway & Seymour acquired sole ownership of the AMtrust trust asset management and accounting system.

Company Description

Broadway & Seymour provides a range of systems integration, professional services and software products primarily to the financial services industry.

The company's offerings address the specific information technology needs of different segments or functions of the financial services industry, such as platform and teller automation, customer service automation, trust operations, check processing, imaging, retirement plan documentation and administration and time and services billing.

Organization and Structure

Through 1994, Broadway & Seymour was organized into five strategic business units, described below.

Asset Management Services, contributing 8% to Broadway & Seymour's 1994 revenue, provides AMtrust trust asset management and accounting software and reengineering services to major American banks and U.S.-based units of foreign financial institutions.

New Financial Services, contributing 32% to Broadway & Seymour's 1994 revenue, leverages the company's expertise to nonbanking clients who require applications similar to those for the banking industry. Systems integration/hardware and software solutions are provided for item processing, remittance processing and customer service systems for credit card processors, utilities and insurance companies.

Retail and Commercial Solutions, contributing 15% to Broadway & Seymour's 1994 revenue, provides large banking holding companies with applications solutions for commercial lending (CRISP and Gemini), retail delivery (BANCStar) and mortgage (Millennium Mortgage).

Professional Support Services, contributing 29% to Broadway & Seymour's 1994 revenue, consists of wholly owned subsidiaries Corbel, Elite Information Systems and EBG & Associates. The unit provides recordkeeping software, financial management applications and expert system document preparation services to banks, professionals in the legal, benefits and accounting industries and other financial services firms.

Community Financial Institutions, contributing 16% to Broadway & Seymour's 1994 revenue, provided branch automation systems (BANCStar Spectrum) and core processing (LIBERTY) for community banks and check imaging and item processing applications. As a result of the sale of the LIBERTY line to Jack Henry & Associates, this unit no longer exists. Broadway & Seymour continues to support but no longer actively markets the BANCStar Spectrum line. The company has retained its check

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imaging and item processing operations and customer base.

In addition to its headquarters in Charlotte (NC), Broadway & Seymour has satellite offices in Baltimore (MD), Boston (MA), Chicago (IL), Columbus (OH), Raleigh (NC), San Francisco (CA) and London (England).

Corbel is located in Jacksonville (FL); Elite Information Systems is based in Los Angeles (CA); and BancCorp Systems is located in Amarillo (TX).

Company Strategy

Broadway & Seymour's strategy includes the following elements:

- Creating value for its clients and competitive advantage for itself by combining industry expertise and entrepreneurial creativity
- Continued sales to existing customers
- Growth through continued strength in core operations as well as acquisitions
- Continue an expanding base of application skills, technology skills and project management skills
- Continue a growing library of software assets
- Continue core competencies in object-based programming techniques, graphical user interface programming, client/server computing and image processing technology solutions in a state-of-the-art computing environment

Financials

Broadway & Seymour's calendar 1994 revenue reached $132.9 million, a 69% increase over 1993 revenue of $78.7 million for the twelve months ending December 31, 1993. Net income for 1994 reached $7.2 million, compared to a net loss of $2.9 million for calendar 1993.

- Broadway & Seymour changed its fiscal year end from January 31 to December 31 during 1993. In the five-year summary on the following page, financials for the twelve months ending December 31, 1993 are presented for comparative purposes. The results for fiscal 1993, 1992 and 1991 are not directly comparable with those of calendar 1993 and 1994, but are presented for historical purposes.
- Financials for all periods have been restated to reflect the pooling of interests acquisition of Micro/Resources, Inc. in September 1994.

Revenue growth in 1994 was attributed to the following:

- Services revenue increased 31% to $68.5 million primarily due to the acquisition of Corbel and Elite Information Systems. Revenue from systems integration and LIBERTY community bank related processing/outsourcing services in 1994 remained relatively flat compared with the prior year. Management focused significant attention on strengthening its systems integration consulting staff in 1994. During the year, Broadway & Seymour generated more than $40 million in revenues from workflow reengineering-related projects.
- Product revenue increased 145% in 1994 to $64.4 million due primarily to sales to Medaphis Corporation, the acquisitions of Corbel and Elite, sales of the company's imaging software and increased sales of the AMtrust and branch automation products, offset by a 29% decline in sales of LIBERTY community banking software and related

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products. The increase of Corbel's revenues is a result of including a full year of Corbel's operations and is also due to an increase in retirement plan document preparation volumes, as the extension period for amending plans to conform with the Tax Reform Act of 1986 expired on December 31, 1994. Revenue from AMtrust and branch automation products increased 238% and 16%, respectively.

- A five-year financial summary follows:

Broadway & Seymour, Inc.
Five-Year Financial Summary
($ Millions, except per share data)

Item	Twelve Months Ending				
	December 31, 1994	December 31, 1993	January 31, 1993	January 31, 1992	January 31, 1991
Revenue	$132.9	$78.7	$65.6	$53.9	$49.4
• Percent change from previous year	69%	N/A	22%	9%	N/A
Income (loss) before taxes	$13.1	$(1.3) (a)	$6.6	$2.8	$1.8
• Percent change from previous year	*	N/A	136%	52%	N/A
Net income (loss)	$7.2	$(2.9)	$3.4	$1.5	$1.5
• Percent change from previous year	621%	N/A	127%	--	N/A
Earnings (loss) per share	$0.85	N/A	$0.51	$0.26	$0.30
• Percent change from previous year	N/A	N/A	96%	(13%)	N/A

* *Percent change exceeds 1,000%.*

(a) Includes a $5 million charge related to the write-down of assets acquired in the February 1992 purchase of National Financial Computer Systems and a $500,000 charge related to relocation expenses.

Interim Results

Revenue for the nine months ending September 30, 1995 reached $98.4 million, compared to $84.4 million for the same period in 1994. Net income reached $5.3 million, compared to $4.7 million for the same period a year ago.

Revenue Analysis by Product/Service

Broadway & Seymour's 1994 revenue was derived approximately as follows:

Product/Service	Revenue ($ Millions)	Percent of Total
Services (a)	$68.1	51%
Software products	48.5	37%
Hardware products	13.3	10%
Other	3.0	2%
Total	$132.9	100%

(a) Services include software development, customization, installation, support and maintenance, documentation, training and consulting services.

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Market Financials

Approximately 49% of Broadway & Seymour's 1994 revenue was derived from financial services institutions and 29% from legal and accounting services firms. The remaining 32% of revenue was derived from credit card processors, utilities, communications companies and other sources.

Geographic Markets

Approximately 98% of Broadway & Seymour's 1994 revenue was derived from the U.S. and 2% from international sources.

Acquisitions

Broadway & Seymour has made at least two acquisitions per year for five successive years. Acquisitions made over the past several years are summarized below.

In June 1995, Broadway & Seymour acquired The Minicomputer Company of Maryland, Inc. (TMC) for approximately 28,900 shares of Broadway & Seymour common stock (valued at $500,000), $725,000 in cash and $400,000 in notes payable. TMC provides time and billing software, custom programming services and other computer-related services primarily to law firms. The acquisition was accounted for as a purchase.

In January 1995, Broadway & Seymour acquired BancCorp Systems, Inc. of Amarillo (TX).

- BancCorp is a developer and owner of trust accounting software for PCs and midrange computers marketed principally to financial institutions and not-for-profit organizations.
- BancCorp was acquired for approximately 95,400 shares of Broadway & Seymour common stock (valued at nearly $2 million), seller financing of $825,000 to be paid over the two years following the deal and the assumption of existing BancCorp debt and other obligations. The acquisition was accounted for as a purchase.

In January 1995, Broadway & Seymour acquired EBG & Associates, Inc. of Chicago (IL).

- EBG provides retirement plan administration software.
- EBG was acquired in exchange for approximately 48,000 shares of Broadway & Seymour common stock (valued at $1 million) and the assumption of existing EBG obligations.

In September 1994, Broadway & Seymour acquired Micro/Resources, Inc. (MRI) of Larkspur (CA).

- MRI is the developer and owner of the CRISP product family—an integrated decision support platform for commercial and private banks in the U.S. The company also provides programming, consulting and technical services related to the installation and support of CRISP.
- MRI was acquired for approximately 632,000 shares of Broadway & Seymour common stock. The acquisition was accounted for as a pooling of interests.

In February 1994, Broadway & Seymour acquired Elite Information Systems, Inc. (formerly Elite Data Processing, Inc.) of Los Angeles (CA).

- Elite provides office automation, timekeeping, accounting and information management software to legal and

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accounting firms nationwide and in the U.K.

- Elite was acquired for approximately 192,300 shares of Broadway & Seymour common stock (valued at approximately $1.8 million), $5.8 million in cash and notes payable totaling $3.8 million. The acquisition was accounted for as a purchase.

In January 1994, Broadway & Seymour purchased the AMtrust software product for $2 million from a four-bank ownership consortium, giving its sole ownership of the product. Broadway & Seymour was the marketing agent of AMtrust for the consortium prior to the purchase.

In May 1993, Broadway & Seymour purchased Corbel & Co. of Jacksonville (FL) for approximately 410,700 shares of company stock (valued at approximately $3.2 million) and $7.7 million in cash. Corbel is one of the largest producers of pension plan documents in the U.S. using its proprietary GOLD software product. Corbel is also the developer and owner of Quantech, a retirement plan administration software package marketed to pension professionals nationwide.

Divestitures

In June 1995, Broadway & Seymour sold to Jack Henry & Associates certain assets of its community bank business, including the LIBERTY software products and data processing centers.

- The aggregate transaction price was $11.6 million, of which approximately $6 million was paid at closing for assets and software license fees, and approximately $5.6 million will be paid over the subsequent 12 months for remaining license fees, software maintenance, marketing services and transition support services.

- The LIBERTY system is currently used by approximately 450 community banks for back-office functions, as well as support for on-line teller terminals, check imaging, maintenance of records relating to investments, safe deposit boxes and other consumer and financial information. The system is available as a software product or via service bureau or facilities management options.

In 1994, Broadway & Seymour was engaged by Medaphis Corporation to provide systems integration and reengineering services in a multiyear, multimillion dollar contract. On December 30, 1994, Medaphis assumed ownership of its contract with Broadway & Seymour when Broadway & Seymour and Medaphis entered into a series of agreements.

- As a result, certain of Broadway & Seymour's Gateway document conversion operations were sold to Medaphis and its systems integration business was split, with Broadway & Seymour retaining contracts with banks and bank subsidiaries and Medaphis receiving other significant open contracts.

- Medaphis also obtained a transferable right and license to copy, use, distribute, sublicense and prepare derivative works of object and source copies of Gateway software. Since most of Gateway's employees became employees of Medaphis and/or its subsidiary, transitional provisions in the agreements included the subcontracting by Medaphis of certain work relating to contracts retained by Broadway & Seymour.

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- Other transitional provisions include software maintenance services to be provided by Broadway & Seymour and mutual noncompete and nonsolicitation agreements.

- Medaphis paid Broadway & Seymour $25.3 million plus an additional $6.8 million for maintenance services provided by Broadway & Seymour through June 1995.

Employees

As of June 30, 1995, the company had 1,122 employees.

Key Products and Services

Asset Management Services

The Asset Management Services Group (AMSG) is a leading provider of trust processing technology and professional services to bank trust and investment institutions.

- Fifteen of the fifty largest trust institutions in the U.S. are AMSG clients.

- The business unit includes a subsidiary called BancCorp Systems, Inc., a developer and owner of trust accounting software for micro and midrange computers marketed principally to financial institutions, non-profit organizations, universities, law firms and private family trusts.

- The unit contributed more than $10.5 million to 1994 revenue.

AMtrust provides automated support to substantially all of the functional areas of trust operations, including on-line securities movement and control (tracking orders from the point of origin, through trading and delivery to final settlement), on-line inquiry, posting and maintenance, common fund, municipal bond fund, variable note and money market processing, master trust accounting and reporting, cash management, real estate management and accounting, investment performance measurement, fully-allocated cost accounting, full income and disbursement processing, mortgage-backed securities processing, customer-defined fees systems and system security.

AMpreferred is a service bureau/facilities management offering based on the AMtrust solution. Through an alliance agreement with Fidelity Investments, AMpreferred will be the delivery channel through which bank trust and investment institutions gain access to a single-source integrated business solution. The alliance's products and services include innovative trust technology, asset management programs, 401(k) services, securities clearance, custody, execution, value-added brokerage and choice and 3,500 Fidelity and non-Fidelity mutual funds.

AssetManager is a suite of products designed to run on the desktops of trust professionals. These Windows-based solutions work with commercially available and proprietary legacy systems, as well as AMtrust, to enhance efficiency and responsiveness in the asset management process.

AMSG also provides bank trust and investment institutions with total business performance solutions, including the following:

- Activity-based management and cost control
- Best practices benchmarking
- Management consulting
- Phone center strategies
- Process management training

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- Workflow and business process reengineering

BancCorp Systems, acquired in January 1995, provides trust accounting systems to more than 400 community banks, non-profit organizations and other organizations.

- TrustProcessor, one of the first in-house PC trust accounting systems, provides pooled fund management for non-profits, and multicurrency trust accounting for institutions with foreign investments. It also interfaces into a variety of other services such as cash management, market pricing, employee benefits, custody, performance measurement and tax preparation.

- TrustProcessor International is a multicurrency version of the original accounting system used widely throughout the Caribbean.

New Financial Services

This business unit provides systems integration, hardware and software solutions primarily for non-bank clients—credit card processors, utilities and insurance companies—primarily for item processing, remittance processing and customer service applications. Revenue from these operations was $42.5 million in 1994, which includes revenue associated with the Medaphis divestiture.

- Tools used include imaging, workflow, computer output to laser disk (COLD) and telephony technologies.

- The company employs application development, systems integration services and business processes to deliver custom solutions for each client.

Project examples include the following:

- A multiyear contract with Comdata to provide business process reengineering, workflow and imaging, and systems development services. The new system streamlines customer service while facilitating business operations.

- A new project with NaBANCO to automate its customer service center in Long Island (NY).

- Providing AT&T's Universal Card Services division with a distributed, client/server system with a GUI front-end that consolidates the company's information systems and presents them on a single desktop platform.

- Acting as a subcontractor to AT&T Global Information Solutions to deliver large item processing systems.

For 1995, goals of this unit include:

- Build awareness in non-banking markets

- Market aggressively to targeted industries

- Continue to build strategic partnerships and alliances

Retail and Commercial Solutions

This unit provides solutions for commercial lending, retail delivery and mortgage applications. The unit has 42 of the top 100 bank holding companies as clients and generated $20 million in revenue during 1994.

CRISP and Gemini, acquired with Micro/Resources in September 1994, are desktop decision support tools used to provide relationship management, customer and product profitability, pricing, credit

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origination and proposal preparation functions for commercial lenders.

- A variety of programming, consulting and technical services are also provided related to the installation and support of desktop decision support systems.

- First Interstate Bank has engaged Broadway & Seymour to customize CRISP for it commercial lenders throughout the enterprise.

The original BANCStar product, acquired in 1992, is a text-based branch automation solution for retail delivery banking applications. BANCStar Prism, introduced in 1994, is the company's graphical user interface version of BANCStar.

- BANCStar consists of integrated application code and specific application generators.

 - The integrated application code is a set of business templates that represent the skeleton functionality of information systems required by a branch of a bank. This includes software that supports teller, customer service, sales and loan calculation activities, as well as software that supports basic system functions such as providing branch statistics and storing and forwarding information to a mainframe computer.

 - Application generators are used to modify, enhance or rewrite application code to support the specific, custom needs of larger banks.

- A bank acquiring a BANCStar system must license a copy of BANCStar for each workstation on which the system will operate. Broadway & Seymour also offers enterprise-wide license agreements for the software.

- BANCStar is licensed to more than 500 banks across the U.S. ranging in asset sized from start-up to multibillion dollar banks. BANCStar is now installed in 23 of the top 100 bank holding companies.

Millennium Mortgage is a software product for PCs that fully automates the lending process, from prequalification through servicing.

- Modules include prequalification, origination, secondary marketing, servicing and regulatory and compliance reporting.

- Clients include PNC Mortgage and Ford Motor Credit.

Goals for this unit in 1995 include:

- Offering major enhancements for CRISP, Gemini, BANCStar and Millennium Mortgage

- Expanding product support to meet needs of customers

Professional Support Services

This unit, with 1994 revenue of $38.5 million, provides products and services through its Corbel and Elite subsidiaries.

Corbel provides a range of retirement plan services to nearly 8,000 pension consultants, attorneys, accountants and banks.

- Corbel is one of the largest producers of pension plan documents in the U.S. using its proprietary Generation of Legal Documents (GOLD) system, a software product capable of assembling complex legal documents.

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- AutoDoc is a PC-based expert document generation software product that produces custom and prototype retirement plans and cafeteria plans. Versions are available for self-funded and group health plans.

- Corbel has developed and markets Quantech, a Windows™-based pension recordkeeping software product suitable for the needs of any size firm. Quantech is a GUI-based product that provides all elements of retirement plan administration, from participant tracking to investment tracking.

- Pentabs is a DOS-based product with many similarities to Quantech. There are more than 1,000 clients using the system today.

- Corbel's National Pension Alliance (NPA) provides its members opportunities to offer mutual funds, brings them daily recordkeeping capabilities and allows them to compete in the 401(k) plan administration market. NPA clients include banks, pension administrators and consultants, accounting firms and other professionals.

Elite provides office automation, time keeping, accounting and information management software to the legal and accounting professions.

- The products, which incorporate client/server and open systems architecture within the Windows environment, include the following:

 - Elite Legal Billing System is a time and billing system that includes cost collection, budgeting, profitability and inquiry functions.

 - Elite Accounts Receivable/Collections module is a tool for managing the collections process, from phone contacts to automatic letter writing.

 - Elite Records Management manages both internal and external records with full barcode support in complete integration with other modules.

 - Elite Practice Management manages relationships among members of the firm, clients and prospects.

 - Elite Financial Management includes General Ledger and Accounts Payable, which support cash or accrual accounting, budgeting and multicurrency.

 - Elite Conflict of Interest provides an integrated conflicts checker based on a full-text search engine.

 - Elite Case Management uses firm-defined rules to track calendar and docket entries and manage case data.

- Elite software is marketed through eight sales offices nationwide and in the U.K.

- Elite products are used by more than 300 legal firms.

EBG, acquired in early 1995, markets the following DOS-based products to employee benefits professionals:

- BenCaster is a defined benefit plan recordkeeping system that allows plan sponsors to calculate accurate pension payout figures, vesting, annual accrued benefits, lump sum amounts and monthly benefits.

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- StartNow! is a "hands-on" retirement benefits estimating tool for employees to estimate individual benefits based on interactive input.

- TrAcc, a pension plan asset recordkeeping and reporting system, offers portfolio accounting general ledger functions, memorized transactions and features such as counter-balancing accounts and global securities pricing.

- PensionMaker Age-Weighted Plus is an allocation system enabling administrators to highlight the benefits of hybrid plans—Age-Weighted, New Comparability and Super Integrated Profit Sharing plans—over traditional integrated and non-integrated profit sharing plans.

VisualImpact Products and Services

VisualImpact is a suite of integrated item and image processing software. The product suite provides advanced function applications that can be used in traditional as well as image-enabled item processing environments. Implementation options allow modular investment, including VisualCapture, VisualPOD, VisualStatement, VisualArchive, VisualAdmin and VisualEncode. The product is marketed to community and mid-tier banks.

Change Management Services

The Change Management Services unit offers industry and technical education, project management, and consulting services to large national and international companies to meet their education and technology implementation needs.

- Consulting services include change management consulting, transition support, education consulting and project management.

- Education services include industry education, multimedia-based technical education and user training.

- The division is an authorized technical education center for Novell, Microsoft and Digitalk and operates three education centers in Charlotte and Raleigh-Durham (NC) and Jacksonville (FL).

Clients

Broadway & Seymour has 105 relationships with 65 clients among the top 100 U.S. bank holding companies and 144 relationships with 101 clients among the top 200.

Systems integration clients include First Union National Bank, First Interstate and Chase Manhattan.

AMtrust clients include Bank of America, Chemical Bank, NationsBank, PNC Bank, KeyCorp and Bank of Boston.

CRISP and Gemini clients include NationsBank, Banc One, First Union, PNC, KeyCorp, Norwest and SunTrust Banks.

BANCStar Prism clients include Union Bank, First American National Bank, Long Island Savings Bank, Premier Bank, PNC and Dollar Bank.

Marketing and Sales

Broadway & Seymour has a direct field sales staff that targets different market areas, including systems integration project customers, new community bank customers, trust institutions and trust departments of large banks, insurance companies, credit card processors, retirement plan administrators and legal and accounting organizations.

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The majority of sales personnel are based at the company's headquarters and are given geographic sales responsibility within their targeted customer markets.

Broadway & Seymour employs approximately 100 sales and marketing personnel. Additionally, senior project managers are directly involved in obtaining large systems integration projects, frequently working in a team with one or more sales professionals.

New customer contacts are generated by a variety of methods, including customer referrals, personal sales calls, attendance at trade shows and seminars, advertising in trade publications, direct mailings to targeted customers and telemarketing.

Alliances

Broadway & Seymour has alliances/marketing agreements with various vendors as follows:

- Authorized education center for Microsoft, Novell and Digitalk
- Development partners with Digitalk, Hewlett-Packard, IBM, Microsoft and Novell
- Original Equipment Manufacturer for FTP Software, Gupta and Xerox
- Marketing alliances with Digital and Sun Microsystems
- Remarketer for AT&T GIS, Eastman Kodak, FileNet, Oracle and Viewstar
- Value-added reseller for Access Graphics, Intervoice, Nabnasset, Oracle, Sun, Sybase and Vantage Technologies
- Microsoft Banking Vendor Council Member
- Associate Member of the Financial Services Technology Consortium

Competitors

Broadway & Seymour competitors include the following:

- Retail and Commercial Solutions competitors include Andersen Consulting, Argo Data Resources, EDS/Ampersand, IBM and Baker Hill.
- Corbel competitors include Trustmark, SunGard, Datair and FDP.
- Elite competitors include Barrister, CompuTrac, CMS Data and Wehrheim Systems.
- Asset Management Services competitors include SEI, Financial Technologies Inc. (FTI), National Computer Systems (NCS), SunGard and M&I Data Services.
- New Financial Services competitors include the Big 6 consulting firms, EDS and various regional systems integrators.
- Change Management Services competitors include Andersen Consulting and other regional technical education companies.

Assessment

Broadway & Seymour considers the company's strengths to include:

- Leadership positions of applications software products in their respective markets (trust processing, commercial lending relationship management, branch automation, retirement plan administration, legal automation)

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- Industry expertise in respective target markets (asset management, retail delivery, call centers, item processing, retirement plan/pension consulting, legal automation)
- Systems/technical expertise in a range of technologies (client/server, imaging, GUI, systems integration, various operating systems and hardware platforms)
- Strategic alliances with major technology industry players
- Client relationships with top tier banking institutions

Challenges include:

- The effects of changes in the competitive structure of the financial services industry on the company's markets. First, consolidation in the banking industry erodes customer and prospect bases. Second, lines of demarcation between banks, insurance companies and investment firms are blurring. Third, smaller banks and services companies must offer more to compete against larger financial institutions.
- The consolidation of technology vendors creates more powerful competitors. Also, the trend toward vendor specialization on single product or processing services with large scale economies
- Ability to leverage strengths (products, industry, technology, strategic alliances, client base) to new and existing markets
- Integrating recent acquisitions while continuing to grow revenues and operating margins

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

July 1995

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BROADWAY & SEYMOUR

INFORMATION TECHNOLOGY SOLUTIONS

Status:	Public
Employees:	1,122 (6/95)
Revenue:	$132,858,000
Fiscal Year End:	12/31/94

Key Points

- Broadway & Seymour provides a range of products and services to the financial services industry.
- The acquisition of BancCorp Systems in early 1995 expanded Broadway & Seymour's offerings in the areas of trust accounting software for PCs and midrange computers marketed principally to financial institutions and not-for-profit organizations.
- The acquisition of EBG & Associates, also in early 1995, added retirement plan administration software to Broadway & Seymour's software product offerings.
- Acquisitions made during 1994 added an integrated decision-support platform for commercial and private U.S. banks and accounting and management software for legal and accounting firms.
- In mid-1995, Broadway & Seymour sold its LIBERTY community bank products and services to Jack Henry & Associates.
- In December 1994, Medaphis Corporation, a Broadway & Seymour systems integration

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client, assumed ownership of its contract with Broadway & Seymour, acquired Broadway & Seymour's Gateway document conversion operations and acquired Broadway & Seymour's non-bank systems integration contracts.

- During 1994, Broadway & Seymour acquired sole ownership of the AMtrust trust asset management and accounting system.

Company Description

Broadway & Seymour provides a range of systems integration, professional services and software products primarily to the financial services industry.

The company's offerings address the specific information technology needs of different segments or functions of the financial services industry, such as platform and teller automation, trust operations, check processing, imaging, retirement plan documentation and administration and time and services billing.

During 1993, Broadway & Seymour changed its fiscal year end from January 31 to December 31 to improve analysis of its results of operations as compared to its competitors and to align its reporting periods with those of most of its customers.

Organization and Structure

Through 1994, Broadway & Seymour was organized into five strategic business units, described below.

Asset Management Services, contributing 8% to Broadway & Seymour's 1994 revenue, provides AMtrust trust asset management and accounting software and reengineering services to major American banks and U.S.-based units of foreign financial institutions.

New Financial Services, contributing 32% to Broadway & Seymour's 1994 revenue, leverages the company's expertise to nonbanking clients who require applications similar to those for the banking industry. Systems integration/hardware and software solutions are provided for item processing, remittance processing and customer service systems for credit card processors, utilities, communications and insurance companies.

Retail and Commercial Solutions, contributing 15% to Broadway & Seymour's 1994 revenue, provides large banking holding companies with applications solutions for commercial lending (CRISP and Gemini), retail delivery (BANCStar) and mortgage (Millennium Mortgage).

Professional Support Services, contributing 29% to Broadway & Seymour's 1994 revenue, consists of wholly owned subsidiaries Corbel, Elite Information Systems and EBG & Associates. The unit provides recordkeeping software, financial management applications and expert system document preparation services to banks, professionals in the legal, benefits and accounting industries and other financial services firms.

Community Financial Institutions, contributing 16% to Broadway & Seymour's 1994 revenue, provided branch automation systems (BANCStar Spectrum) and core processing (LIBERTY) for community banks and check imaging and item processing applications. As a result of the sale of the LIBERTY line to Jack Henry & Associates, this unit no longer exists. Broadway & Seymour continues to support but no longer actively markets the BANCStar Spectrum line. The company has retained its check imaging and item processing operations and customer base.

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In addition to its headquarters in Charlotte (NC), Broadway & Seymour has satellite offices in Amarillo and Houston (TX), Boston (MA), Chicago (IL), Columbus (OH), New York (NY), Orlando (FL), Rochester and St. Paul (MN), San Francisco (CA) and London (England).

Corbel is located in Jacksonville (FL) and Elite Information Systems is based in Los Angeles (CA).

Company Strategy

Broadway & Seymour's strategy includes the following elements:

- Creating value for its clients and competitive advantage for itself by combining industry expertise and entrepreneurial creativity
- Continued sales to existing customers
- Growth through continued strength in core operations as well as acquisitions
- Continue an expanding base of application skills, technology skills and project management skills
- Continue a growing library of software assets
- Continue core competencies in object-based programming techniques, graphical user interface programming, client/server computing and image processing technology solutions in a state-of-the-art computing environment

Financials

Broadway & Seymour's calendar 1994 revenue reached $132.9 million, a 69% increase over 1993 revenue of $78.7 million for the twelve months ending December 31, 1993. Net income for 1994 reached $7.2 million, compared to net losses of $2.9 million for calendar 1993.

- Broadway & Seymour changed its fiscal year end from January 31 to December 31 during 1993. In the five-year summary on the following page, financials for the twelve months ending December 31, 1993 are presented for comparative purposes. The results for fiscal 1993, 1992 and 1991 are not directly comparable with those of calendar 1993 and 1994, but are presented for historical purposes.
- Financials for all periods have been restated to reflect the pooling of interests acquisition of Micro/Resources, Inc. in September 1994.

Revenue growth in 1994 was attributed to the following:

- Services revenue increased 31% to $68.5 million primarily due to the acquisition of Corbel and Elite Information Systems. Revenue from systems integration and LIBERTY community bank related processing/outsourcing services in 1994 remained relatively flat compared with the prior year. Management focused significant attention on strengthening its systems integration consulting staff in 1994. During the year, Broadway & Seymour generated more than $40 million in revenues from workflow reengineering-related projects
- Product revenue increased 145% in 1994 to $64.4 million due primarily to sales to Medaphis Corporation, the acquisitions of Corbel and Elite, sales of the company's imaging software and increased sales of the AMtrust and branch automation products, offset by a 29% decline in sales of LIBERTY community banking software and related products. The increase of Corbel's revenues is a result of 1994 including a full year of Corbel's operations and is also due to an

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increase in retirement plan document reparation volumes, as the extension period for amending plans to conform with the Tax Reform Act of 1986 expired on December 31, 1994. Revenue from AMtrust and branch automation products increased 238% and 16%, respectively.

- A five-year financial summary follows:

Broadway & Seymour, Inc.
Five-Year Financial Summary
($ Millions, except per share data)

Item	Twelve Months Ending				
	December 31, 1994	December 31, 1993	January 31, 1993	January 31, 1992	January 31, 1991
Revenue	$132.9	$78.7	$65.6	$53.9	$49.4
• Percent change from previous year	69%	N/A	22%	9%	N/A
Income (loss) before taxes	$13.1	$(1.3) (a)	$6.6	$2.8	$1.8
• Percent change from previous year	*	N/A	136%	52%	N/A
Net income (loss)	$7.2	$(2.9)	$3.4	$1.5	$1.5
• Percent change from previous year	621%	N/A	127%	--	N/A
Earnings (loss) per share	$0.85	N/A	$0.51	$0.26	$0.30
• Percent change from previous year	N/A	N/A	96%	(13%)	N/A

* *Percent change exceeds 1,000%.*

(a) Includes a $5 million charge related to the write-down of assets acquired in the February 1992 purchase of National Financial Computer Systems and a $500,000 charge related to relocation expenses.

Interim Results

Revenue for the six months ending June 30, 1995 reached $65.2 million, compared to $52.1 million for the same period in 1994. Net income reached $2.8 million, compared to $2.77 million for the same period a year ago.

Revenue Analysis by Product/Service

Broadway & Seymour's 1994 revenue was derived approximately as follows:

Product/Service	Revenue ($ Millions)	Percent of Total
Services (a)	$68.1	51%
Software products	48.5	37%
Hardware products	13.3	10%
Other	3.0	2%
Total	$132.9	100%

(a) Services include software development, customization, installation, support and maintenance, documentation, training and consulting services.

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Market Financials

Approximately 49% of Broadway & Seymour's 1994 revenue was derived from financial services institutions and 29% from legal and accounting services firms. The remaining 32% of revenue was derived from credit card processors, utilities, communications companies and other sources.

Geographic Markets

Approximately 98% of Broadway & Seymour's 1994 revenue was derived from the U.S. and 2% from international sources.

Acquisitions

Broadway & Seymour has made two acquisitions per year for five successive years. Acquisitions made over the past several years are summarized below.

In January 1995, Broadway & Seymour acquired BancCorp Systems, Inc. of Amarillo (TX).

- BancCorp is a developer and owner of trust accounting software for PCs and midrange computers marketed principally to financial institutions and not-for-profit organizations.

- BancCorp was acquired for approximately 95,400 shares of Broadway & Seymour common stock (valued at nearly $2 million), seller financing of $825,000 to be paid over the next two years and the assumption of existing BancCorp debt and other obligations. The acquisition was accounted for as a purchase.

In January 1995, Broadway & Seymour acquired EBG & Associates, Inc. of Chicago (IL).

- EBG provides retirement plan administration software.

- EBG was acquired in exchange for approximately 48,000 shares of Broadway & Seymour common stock (valued at $1 million) and the assumption of existing EBG obligations.

In September 1994, Broadway & Seymour acquired Micro/Resources, Inc. (MRI) of Larkspur (CA).

- MRI is the developer and owner of the CRISP product family—an integrated decision support platform for commercial and private banks in the U.S. The company also provides programming, consulting and technical services related to the installation and support of CRISP.

- MRI was acquired for approximately 632,000 shares of Broadway & Seymour common stock. The acquisition was accounted for as a pooling of interests.

In February 1994, Broadway & Seymour acquired Elite Information Systems, Inc. (formerly Elite Data Processing, Inc.) of Los Angeles (CA).

- Elite provides office automation, timekeeping, accounting and information management software to legal and accounting firms nationwide and in the U.K.

- Elite was acquired for approximately 192,300 shares of Broadway & Seymour common stock (valued at approximately $1.8 million), $5.8 million in cash and notes payable totaling $3.8 million. The acquisition was accounted for as a purchase.

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In January 1994, Broadway & Seymour purchased the AMtrust software product for $2 million from a four-bank ownership consortium, giving its sole ownership of the product. Broadway & Seymour was the marketing agent of AMtrust for the consortium prior to the purchase.

In May 1993, Broadway & Seymour purchased Corbel & Co. of Jacksonville (FL), one of the largest producers of pension plan documents in the U.S. using its proprietary GOLD software product. Corbel is also the developer and owner of Quantech, a retirement plan administration software package marketed to pension professionals nationwide.

Divestitures

In June 1995, Jack Henry & Associates acquired certain Broadway & Seymour community banking products and services for approximately $12 million.

- Jack Henry acquired Broadway & Seymour's LIBERTY software products and services for community banks.

- The LIBERTY system is currently used by approximately 450 community banks for back-office functions, as well as support for on-line teller terminals, check imaging, maintenance of records relating to investments, safe deposit boxes and other consumer and financial information. The system is available as a software product or via service bureau or facilities management options.

In 1994, Broadway & Seymour was engaged by Medaphis Corporation to provide systems integration and reengineering services in a multiyear, multimillion dollar contract. On December 30, 1994, Medaphis assumed ownership of its contract with Broadway & Seymour when Broadway & Seymour and Medaphis entered into a series of agreements.

- As a result, certain of Broadway & Seymour's Gateway document conversion operations were sold to Medaphis and its systems integration business was split, with Broadway & Seymour retaining contracts with banks and bank subsidiaries and Medaphis receiving other significant open contracts.

- Medaphis also obtained a perpetual, irrevocable, nonexclusive, worldwide royalty-free, transferable right and license to copy, use, distribute, sublicense and prepare derivative works of object and source copies of Gateway software. Since most of Gateway's employees became employees of Medaphis and/or its subsidiary, transitional provisions in the agreements included the subcontracting by Medaphis of certain work relating to contracts retained by Broadway & Seymour.

- Other transitional provisions include software maintenance services to be provided by Broadway & Seymour and mutual noncompete and nonsolicitation agreements.

- Medaphis paid Broadway & Seymour $25.3 million plus an additional $6.9 million for maintenance services provided by Broadway & Seymour over an 18-month period.

Employees

As of February 28, 1995, Broadway & Seymour had 983 full-time employees.

As of June 30, 1995, the company had 1,122 employees.

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Key Products and Services

Asset Management Services

Broadway & Seymour offers AMtrust, a comprehensive trust asset management and accounting system, to large trust institutions and trust departments of major banks. The unit contributed more than $10.5 million to 1994 revenue.

- AMtrust provides automated support to substantially all of the functional areas of trust operations, including on-line securities movement and control (tracking orders from the point of origin, through trading and delivery to final settlement), on-line inquiry, posting and maintenance, common fund, municipal bond fund, variable note and money market processing, master trust accounting and reporting, cash management, real estate management and accounting, investment performance measurement, fully-allocated cost accounting, full income and disbursement processing, mortgage-backed securities processing, customer-defined fees systems and system security.

- AMtrust is designed for the nation's largest trust administrators and is marketed to the 100 largest trust institutions, including trust departments of major banks.

- The per unit license fee for AMtrust approximates $1.3 million. In connection with each license, Broadway & Seymour provides a significant amount of separately priced customization services to tailor the system to the customer's individual specifications. In addition, users generally pay an annual support and maintenance fee of approximately $90,000

- The installation of AMtrust typically requires from 12 to 24 months depending on the level of customization required.

- There are currently 15 AMtrust clients.

BancCorp Systems, acquired in January 1995, provides Trust Processor trust accounting systems to more than 400 community banks, non-profit organizations and other institutions. Trust Processor is available for PCs and IBM AS/400 midrange computers and is available in a multicurrency version that can be used for private international banking and foreign currency asset management.

Asset Management Services also provides reengineering consulting and systems services.

Goals for this unit in 1995 include:

- Developing multicurrency accounting for AMtrust

- Offering AMtrust on a service bureau basis to both large and small organizations

- Developing a suite of workstation-based products under the name AssetManager, including the following:

 - AMadministrator offers client administrators support for key tasks, including creating reports, setting up new accounts, entering remote trades and managing cash receipts and disbursements.

 - AMinvestor allows portfolio managers to create model portfolios, monitor investment performance and study trading histories in support of investment decisions.

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- AMsource provides automated access to third-party databases, allowing trust officers to gather information on securities and pass the data onto the core accounting system.

- AMtrader supports trading management through electronic order routing, creating an electronic pipeline to security exchanges.

New Financial Services

This business unit provides hardware and software/systems integration solutions primarily for non-bank clients— credit card processors, utilities and communications and insurance companies—primarily for item processing, remittance processing and customer service applications. Revenue from these operations was $42.5 million in 1994.

- Tools used include imaging, workflow, computer output to laser disk (COLD) and telephony technologies.

- The company employs application development, systems integration services and business processes to deliver custom solutions for each client.

Project examples include the following:

- A multiyear contract with Comdata to provide business process reengineering, workflow and imaging, and systems development services. The new system streamlines customer service while facilitating business operations.

- A new project with NaBanco to automate its customer service center in Long Island (NY)

- Providing AT&T's Universal Card Services division with a distributed, client/server system with a GUI front-end that consolidates the company's information systems and presents them on a single desktop platform.

- Acting as a subcontractor to AT&T Global Information Solutions to deliver large item processing systems.

For 1995, goals of this unit include:

- Complete development of a new client/server system for item and remittance processing

- Market aggressively to targeted industries

- Continue to build strategic partnerships and alliances

Retail and Commercial Solutions

This unit provides solutions for commercial lending, retail delivery and mortgage applications. The unit has 42 of the top 100 bank holding companies as clients and generated $20 million in revenue during 1994.

CRISP and Gemini, acquired with Micro/Resources in September 1994, are desktop decision support tools used to provide relationship management, customer and product profitability, pricing, credit origination and proposal preparation functions for commercial lenders.

- A variety of programming, consulting and technical services are also provided related to the installation and support of desktop decision support systems.

- First Interstate Bank has engaged Broadway & Seymour to customize CRISP for it commercial lenders throughout the enterprise.

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The original BANCStar product, acquired in 1992, is a text-based branch automation solution for retail delivery banking applications. BANCStar Prism, introduced in 1994, is the company's graphical user interface version of BANCStar.

- BANCStar consists of integrated application code and specific application generators.
 - The integrated application code is a set of business templates that represent the skeleton functionality of information systems required by a branch of a bank. This includes software that supports teller, customer service, sales and loan calculation activities, as well as software that supports basic system functions such as providing branch statistics and storing and forwarding information to a mainframe computer.
 - Application generators are used to modify, enhance or rewrite application code to support the specific, custom needs of larger banks.
- A bank acquiring a BANCStar system must license a copy of BANCStar for each workstation on which the system will operate. Broadway & Seymour also offers enterprise-wide license agreements for the software.
- BANCStar is licensed to more than 500 banks across the U.S. ranging in asset sized from start-up to multi-billion dollar banks. BANCStar is now installed in 23 of the top 100 bank holding companies.

Millennium Mortgage is a software product for PCs that provides fully automates the lending process, from prequalification through servicing.

- Modules include prequalification, origination, secondary marketing, servicing and regulatory and compliance reporting.
- Clients include PNC Mortgage and Ford Motor Credit.

Goals for this unit in 1995 include:

- Offering major enhancements for CRISP, Gemini, BANCStar and Millennium Mortgage
- Expanding product support to meet needs of customers

Professional Support Services

This unit, with 1994 revenue of $38.5 million, provides products and services through its Corbel and Elite subsidiaries.

Corbel provides a range of retirement plan services to nearly 8,000 pension consultants, attorneys, accountants and banks.

- Corbel is one of the largest producers of pension plan documents in the U.S. using its proprietary Generation of Legal Documents (GOLD) systems, a software product capable of assembling complex legal documents.
- AutoDoc is a PC-based expert document generation software product that produces custom and prototype retirement plans and cafeteria plans. Versions are available for self-funded and group health plans.
- Corbel has developed and markets Quantech, a Windows-based pension recordkeeping software product sold to small and large clients. Quantech is a GUI-based product that provides all elements of retirement plan

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administration, from participant tracking to investment tracking.

- Pentabs is a DOS-based product similar to Quantech.

- Corbel's National Pension Alliance (NPA) provides its members opportunities to offer mutual funds, brings them daily recordkeeping capabilities and allows them to compete in the 401(k) plan administration market. NPA clients include approximately 100 banks, pension administrators and other professionals.

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plans—over traditional integrated and non-integrated profit sharing plans.

Community Financial Institutions

This unit reported 1994 revenue of $21 million, down slightly from 1993. The primary offerings of this unit—LIBERTY software, processing and systems operations services—was sold to Jack Henry & Associates.

The company's BANCStar Spectrum product for community banks continues to be supported but is no longer actively marketed.

VisualImpact Products and Services

VisualImpact is a suite of integrated item and image processing software. VisualImpact is a true client/server system designed with an open architecture using Windows NT. Implementation options allow modular investment, including VisualCapture, VisualPOD, VisualStatement, VisualArchive, VisualAdmin and VisualEncode. The product is marketed to community and mid-tier banks.

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- Original Equipment Manufacturer for FTP Software, Gupta and Xerox
- Marketing alliances with Digital and Sun Microsystems
- Remarketer for AT&T GIS, Eastman Kodak, Filenet, Oracle and Viewstar
- Value-added reseller for Access Graphics, Intervoice, Nabnasset, Sun and Sybase
- Microsoft Banking Vendor Council Member

Competitors

Broadway & Seymour competitors include the following:

- Systems integration competitors include the Big 6, EDS, Technology Solutions Company (TSC) and IBM ISSC.
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- New Financial Services competitors include Banctec, IA Corp., Recognition and Andersen Consulting.

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Fax: (704) 343-9610

President:	William W. Neal
CEO:	Olin H. Broadway
Status:	Public
Revenue:	$58,297,000
Employees:	350
FYE:	1/31/92

Key Points

- Broadway & Seymour provides a broad range of services and products to the financial services industry.
- Broadway & Seymour has specific applications expertise in community banking, branch banking platform and teller automation, trust operations, and imaging and check processing.
- Eighty-three percent of revenue in 1992 was realized as follow-up services to Broadway & Seymour's customer base.
- Broadway & Seymour has been challenged by the high degree of consolidation and competition in the banking industry. The consolidation has contributed to a decline in the number of start-ups and a declining number of banks moving from service bureaus to in-house systems.
- The company has acquired four businesses since 1989, three since July 1991. Broadway & Seymour intends to continue its growth strategy using acquisitions, strategic remarketing, and other alliances.
- Typically, Broadway & Seymour products include a high degree of customization and implementation support. Revenue from these follow-on services, including systems integration, maintenance services, and other support services, account for eighty-three percent of revenue in 1992.

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Company Description

Broadway & Seymour provides a range of information technology solutions to the financial services community. The company offers an array of products and services, including systems integration and software development services, project management, software products, and service bureau and facilities management services.

The company has particular expertise in the following areas: community banking, branch banking platform and teller automation, trust operations, and imaging and check processing.

Company History

The company was incorporated in 1985 in connection with the acquisition of Broadway & Seymour, Inc., a North Carolina corporation that has been doing business since 1981. In 1985, Broadway & Seymour began marketing LIBERTY, a back-office applications software package for community banks.

In 1989, a new management team was brought in to change the company's primary focus from providing contract programming to providing system integration services to the financial services industry.

In 1991, Broadway & Seymour acquired National Systems Group and the Heebink Group. In 1992, Broadway & Seymour acquired National Financial Computer Systems, Inc., the developer and owner of BANCStar, a workstation-based software product that facilitates the development of branch banking platform and teller automation.

Financials

Broadway & Seymour offers an array of products and services, including systems integration and software development services, project management, software products, and service bureau and facilities management services. A three year source of revenue summary follows:

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Broadway & Seymour
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR (ENDING 1/31)					
	1992 (PRO FORMA)		1991		1990	
ITEM	REVENUE	PERCENT OF TOTAL	REVENUE	PERCENT OF TOTAL	REVENUE	PERCENT OF TOTAL
Services	$37.7	64.6%	$30.8	62.5%	$27.2	58.5%
Products	$20.6	35.4%	$18.4	37.5%	$19.2	41.5%

The following selected consolidated financial data (except for the pro forma data) have been taken from Broadway & Seymour's consolidated financial statements.

During 1992, Broadway & Seymour's total revenues reached $58.3 million, 18.4% increase over 1991 revenues of $49.2 million.

The pro forma statement of income data gives pro forma effect to the acquisitions of Trust Systems, Heebink and NFCS as if each acquisition had been completed as of February 1, 1991. The pro forma data also shows the effect of the sale of 448,065 shares of common stock offered by Broadway & Seymour at an assumed public offering price of $11.00 a share, as if such a sale had been completed on February 1, 1991 and the application of the estimated net proceeds were used to discharge approximately $4.4 million of the indebtedness incurred by Broadway & Seymour in connection with the acquisitions of Heebink and NFCS.

The pro forma balance sheet data gives pro forma effect to the acquisition of NFCS as if such an acquisition had been completed as of January 31, 1992, and a portion of the estimated net proceeds there from had been used to discharge approximately $4.4 million of debt incurred by the company in connection with the acquisitions of Heebink and NFCS.

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BROADWAY & SEYMOUR
FIVE-YEAR FINANCIAL SUMMARY
(In thousands except per share data)

	FISCAL YEAR				
ITEM	1/92	1/91	1/90	1/89	1/88
TOTAL REVENUE	$58,297	$49,365	$46,349	$35,804	$27,585
Percent increase from previous year	18.4%	6.5%	29%	33%	
Income(loss) before taxes	$4,197	$1,828	$269	$(97)	$(1,019)
Percent increase from previous year	129%	3.7%	0.6%	(0.3)%	
Net income	$2,258	$1,522	$269	$ (97)	$(1,019)
· Percent increase from previous year	48%	1.7%	(0.3)%	(0.3)%	
Earnings per share	$.40	$.27	$.02	$(.02)	$(.23)

Acquisitions

The company was incorporated in 1985 with the acquisition of a company that had provided contract programming services to banks since 1981.

In 1989, Broadway & Seymour began to acquire additional software products for license to the financial services industry. In 1989, Broadway & Seymour acquired BankSystems Company, a provider of back-office applications for community banks.

In July 1991, Broadway & Seymour acquired Trust Systems, the developer and sole marketer of AMtrust, a comprehensive trust accounting software package marketed to large trust institutions and trust departments of major banks.

In December 1991, Broadway & Seymour acquired National Systems Group and the Heebink Group, a provider of consulting, project management and training services to AMtrust users.

In 1992, Broadway & Seymour acquired National Financial Computer Systems, Inc., the developer and owner of BANCStar, a workstation-based software product that facilitates the development of branch banking platform and teller automation.

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Competitors

As Broadway & Seymour became a full-service technology provider to the banking industry, direct competitors have changed to some extent.

Broadway & Seymour's principal competitors in systems integration services are: the Big 6, Electronic Data Systems, Technology Solutions Company (TSC) and IBM ISSC.

Competitors offering community banking and branch automation include: Jack Henry (Broadway & Seymour's primary competitor), Kirchman Systems, Systematics, Paychex, FiServ and Bisys.

Key Clients

Broadway & Seymour's systems integration customers include Nations Bank Corporation, First Bank System, Policy Management Systems Corporation, IBM and Wachovia Corporation.

Broadway & Seymour's LIBERTY product is used by approximately 500 community banks ranging in size from start-up to $460 million in assets, and its BANCStar product is used by more than 500 banks with assets up to $46 billion.

AMTrust is used by 14 of the largest trust institutions and trust departments of major banks, including PNC Financial Corp., Continental Bank, N.A. and Manufacturers Hanover Trust Company.

Key Products and Services

Broadway & Seymour's services revenues increased in 1992, increasing to 64.6% of total revenue. Software product sales accounted for 35.4% of 1992 revenue.

Systems Integration Services

The majority of Broadway & Seymour's revenue is generated through systems integration projects with large corporate clients. These projects typically involve the development of software solutions to business problems and usually are part of a solution that includes hardware and software products and training and documentation. Systems integration projects typically involve some or all of the following elements of the software development process:

- Strategic planning, including an assessment of a customer' technology related needs and the development of an overall strategy to meet those needs
- Development of functional specifications

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- Development of the system architecture and the technical design specification
- Building and testing the software product
- Transition, including data conversion, training and documentation
- Product support, including maintenance, ongoing enhancement of the software and facilities management

Some examples of recently completed systems integration projects include:

- The development of an integrated branch banking platform and automated teller system for a regional bank with over 150 branches
- An engagement with a computer hardware and software company to develop code for high-speed check processing and imaging software. Broadway & Seymour is involved in the development of both the core imaging software that enables image display and manipulation and the communication software that controls the image distribution.

Finally, Broadway & Seymour's specific areas of expertise include: graphical user interfaces, object-oriented programming, computer-aided software engineering, relational data base management systems, cooperative processing, distributed processing, and imaging technology.

LIBERTY *Products and Services*

These products are targeted to community banks with up to approximately $500 million in assets. The LIBERTY system allows a community bank to perform back-office data processing, functions in connection with deposit accounting and proofing, loan accounting, general ledger accounting, asset/liability management, maintenance customer information files used in marketing, magnetic media reporting and generation of specific reports, including quarterly call reports and payroll summaries.

LIBERTY consists of multiple fully integrated applications software modules, designed to perform various tasks relating to a particular application. LIBERTY is designed for IBM's AS/400 or System 36 computers.

The LIBERTY system is currently used by approximately 500 community banks and is offered under three options:

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- The first option is that Broadway & Seymour installs LIBERTY as an on-site system that can include an IBM purchased from Broadway & Seymour.

- The second option, Broadway & Seymour can supply LIBERTY as a service bureau option, in which the customer's data is processed at one of the company's three service bureaus.

- The company also offers LIBERTY through on-site facilities management agreements. Broadway & Seymour currently has one facilities management customer.

AMtrust Products and Services

Broadway & Seymour first entered the trust management market in 1991 with the acquisition of Trust Systems. Trust Systems is the sole provider of the AMtrust software application package that runs on mainframes. In December 1991 Broadway & Seymour made an acquisition that complemented the AMtrust product offering by acquiring the Heebink Group, one of the largest consulting groups specializing in the installation of and user training on AMtrust.

AMtrust provides automated support of all of the functional areas of trust operations, including on-line security movement and control, on-line inquiry, posting and maintenance, common fund, municipal bond fund, variable note and money market processing, master trust accounting and reporting, cash management, real estate management and accounting, investment performance measurement, full allocated cost accounting, full income and disbursement processing, mortgage-backed securities processing, customer-defined fee systems and system security.

AMtrust is the leading trust accounting product on the market and is marketed to the 100 largest trust institutions in the U.S., including the trust departments of major banks.

BANCStar Products and Services

In February 1992, Broadway & Seymour completed the acquisition of NFCS, which owns BANCStar. Prior to the acquisition, Broadway & Seymour marketed BANCStar as a nonexclusive agent. BANCStar consists of integrated application code and specific application generators. The integrated application code is a set of templates that represent an outline of the functional requirement for information systems required by a branch of a bank. This includes software that supports teller, customer support and service, sales, and loan calculation activities as well as basic system functions such as providing branch statistics and forwarding information to a mainframe.

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Generally, the package works for smaller banks, but using the application generator it can be modified to fit the needs of larger banks as well.

BANCStar is licensed to more than 500 banks across the country ranging in asset size from start-up to $46 billion.

Support Services

Broadway & Seymour offers system maintenance and support at fixed prices under renewable contracts. The degree of maintenance provided to customers differs depending on the product being supported. Generally, support services include telephone support and regular product releases.

Industry Markets

Approximately 100% of Broadway & Seymour's fiscal 1992 revenue was derived from the banking and finance industry. Generally, Broadway & Seymour serves a broad variety of banks, ranging from start-up to several of the largest banks in the country and, to a lesser degree other financial services providers.

Geographic Markets

Approximately 100% of Broadway & Seymour's revenue was derived from U.S. markets.

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

August 1996

Broderbund Software, Inc.

Chairman & CEO: **Doug Carlston**
President & COO: **Bill McDonagh**
500 Redwood Boulevard
P.O. Box 6121
Novato, CA 94948-6121
Phone: **(415) 382-4400**
Fax: **(415) 382-4582**
Internet: http://www.broderbund.com

Status:	Public
Employees:	625 (7/96)
Revenue, 9 mo. ending 5/31/96:	$153,998,000
Revenue, FYE 8/31/95:	$171,594,000

Key Points

- Broderbund develops, publishes, and markets a range of consumer software for use in homes, schools, and small businesses.
- The company's five best selling products during fiscal 1995 were *The Print Shop® Deluxe CD Ensemble™, Myst®, Where in the World is Carmen Sandiego?®, 3D Home Architect®, and Math Workshop™.*
- During fiscal 1995, Broderbund completed the conversion of its product line to CD ROM. In fiscal 1995, approximately 80% of Broderbund's revenue came from CD ROM sales.
- In late 1995, Broderbund lost its bid to acquire The Learning Company, a leading developer of educational software. In December 1995, SoftKey International acquired 95% of The Learning Company for approximately $684 million.
- In early 1996, Broderbund formed the Fremont Education Division, an educational software development division based in Fremont (CA). The division's team of

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software developers includes former employees of The Learning Company.

- In April 1995, Broderbund acquired Banner Blue Software, a leading developer of genealogy software.

- During fiscal 1995, Broderbund opened an office in London to service as a hub for its sales and marketing efforts in Europe.

Company Description

Broderbund develops, publishes, and markets a diversified line of consumer software for the home, school, and small business markets.

Broderbund sells *published products* (developed by Broderbund using a combination of internal and external resources) and *affiliated label products* (developed by other software companies and distributed by Broderbund through its sales organization). The company offers products primarily in three consumer software categories:

- Home productivity products, consisting of software that enables the consumer to produce and manipulate printed output, enhancing the user's creativity

- Education products, designed to be both educational and fun

- Entertainment products, designed for the consumer's leisure time enjoyment

Broderbund has sold more than 30 million units of software since its founding in 1980.

Organization and Structure

During fiscal 1995, Broderbund organized its production studios into three studio units, each dedicated to products targeted at the education, entertainment, or productivity markets.

Broderbund Studios is Broderbund's product development arm. The Fremont Education Division reports to Broderbund Studios.

Living Books® is an equal partnership between Broderbund and Random House, formed in 1994. This joint venture publishes a series of interactive animated children's storybooks on CD ROM.

Broderbund's key executives are summarized below:

Broderbund Key Executives

Name	Title
Doug Carlston	Chairman & CEO
Bill McDonagh	President & COO
Jan L. Gullett	SVP Marketing and Sales
Harry Wilker	SVP Broderbund Studios
John W. Baker	VP Product Development
Steven M. Dunphy	VP Business Development
Rodney D. Haden	VP Sales
Pat Walkington	VP Educational Sales and Marketing
Kenneth L. Hess	President, Banner Blue Div.

U.S. sales offices are in Los Angeles and Novato (CA), Atlanta (GA), Chicago (IL), Boston (MA), Philadelphia (PA), Dallas (TX), and Cleveland (OH).

Broderbund has a subsidiary in England to market and distribute localized versions of its products to major European markets.

Company Strategy

Broderbund's product strategy is to identify and develop families of software products in order to achieve sustained consumer appeal and brand name recognition.

Ease of use and interactivity are two main design principles behind Broderbund product design.

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In recent years, Broderbund has focused its product development efforts in the areas of creativity, entertainment, and education. In line with this approach, Broderbund seeks to develop products that appeal both to the primary user and to third parties, particularly teachers and parents. The company believes that the educational content in its products make them popular with teachers and parents without diminishing the entertainment value to students.

New product development efforts will focus on the CD ROM platform, but Broderbund intends to continue to manufacture existing floppy products while there is a market for those products, particularly in the education sales area.

- Also during fiscal 995, the company upgraded its major products to incorporate significant consumer features of Windows 95.

- During fiscal 1996, Broderbund intends to introduce native Windows 95 products.

Financials

Fiscal 1995 revenue reached $171,6 million, a 54% increase over fiscal 1994 revenue of $111.8 million. Net income was $36.2 million, a 227% increase over fiscal 1994 net income of $11.1 million.

A five-year financial summary follows:

Broderbund Software, Inc.
Five-Year Financial Summary
($ Millions, except per-share data)

	Fiscal Year				
Item	8/95	8/94	8/93	8/92	8/91
Revenue	$171.6	$111.8	$95.6	$75.1	$55.8
• Percent change from previous year	54%	17%	27%	35%	11%
Income before taxes	$61.7	$19.8	$21.9	$15.5	$11.6
• Percent change from previous year	(a) 211%	(b) (10%)	42%	33%	14%
Net income	$36.2	$11.1	$13.6	$9.7	$7.1
• Percent change from previous year	227%	(19%)	41%	37%	122%
Earnings per share	$1.72	$0.55	$0.68	$0.49	$0.38
• Percent change from previous year	213%	(19%)	39%	29%	121%

(a) Includes equity in income of approximately $3.9 million from the Living Books joint venture.

(b) Includes costs of $11.0 million associated with a terminated merger.

The growth in revenue during fiscal 1995 reflects strong consumer demand for the company's products. Also contributing to revenue growth was the number of new products released in both the published and affiliated label areas.

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- During fiscal 1995, Broderbund released 77 new products, as compared to 68 products in fiscal 1994, and 44 products in fiscal 1993.

- The new product releases included new titles, upgrades to existing titles, and transfers of existing titles to new hardware platforms.

- Revenue from entertainment products showed the highest growth rate at approximately 150% in fiscal 1995, compared to more than 200% in fiscal 1994.. Growth in the entertainment category, which typically has shorter life cycles than the rest of Broderbund's product lines, was led by the continued success of *Myst*.

- The Other Published Products category posted growth of 86% during fiscal 1995, up from a decline of approximately 6% during fiscal 1994, primarily due to the success of *3D Home Architect* and the acquisition of Banner Blue Software, publisher of the leading selling genealogy program, *Family Tree Maker*.

- The Print Shop family and Living Books both grew approximately 50% during fiscal 1995, primarily due to expansion of the product lines.

- The Early Learning group grew 38% during fiscal 1995 mainly from new product introductions, an increase from 3% growth in fiscal 1994, which was prior to the Early Learning products being upgraded from the DOS platform.

- Revenue from the Carmen Sandiego family grew approximately 10% in fiscal 1995, up from a decline of 24% during fiscal 1994. The primary products in the Carmen Sandiego family (World, USA, and Junior) showed growth in fiscal 1995 while some of the other titles in the family, which have not been converted to the CD ROM platform, declined.

- Affiliated labels, other than Living Books, declined 20% during fiscal 1995 and 45% in fiscal 1994 primarily due to the turnover in affiliated label companies. Some of the Broderbund's newer affiliated label companies, such as Starwave Corporation and The Logic Factory, Inc. will not release products until 1996.

Research and development expenses were approximately $22.8 million (13% of revenue) in fiscal 1995, $16.0 million (14% of revenue) in fiscal 1994, and $13.7 million (14% of revenue) in fiscal 1993. Increases in fiscal 1995 were due primarily to the introduction of new products, the conversion of products to Windows 95, and the localization of products into foreign languages for international markets.

Revenue Analysis by Product/Service

Broderbund's fiscal 1995 revenue was derived approximately as follows:

Print Shop products	30%
Carmen Sandiego products	10%
Early Learning products	10%
Living Books	13%
Entertainment products	24%
Affiliate label products	5%
Other *	8%
	100%

* *Includes reference products and other printing, graphics, and home productivity products*

Sales from products on CD ROM accounted for approximately 80% of revenue in fiscal 1995, compared to 40% in fiscal 1994, and less than 10% in fiscal 1993.

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The mix of revenue by hardware platform in fiscal 1995 was nearly 80% of revenue from Windows/DOS products and 20% from Macintosh products.

Interim Results

Revenue for the nine months ending May 31, 1996 reached $154.0 million, up 15% from $134.4 million for the same period in 1995. Net income was $41.0 million up from $29.0 million for the same period a year ago.

- During the second quarter of 1996, Broderbund recorded a pretax gain of $15.5 million arising from a breakup fee received in the terminated merger with The Learning Company.
- Exclusive of the one-time gain, net income for the nine months ending May 31, 1996 was $31.7 million.

Market Financials

Broderbund's products are sold to the home/consumer, school, and small business markets.

Geographic Markets

INPUT estimates approximately 95% of Broderbund's fiscal 1995 revenue was derived from the U.S. and the remainder from international sources.

Acquisitions

In April 1995, Broderbund acquired Banner Blue Software, a publisher of genealogy software, for 607,000 shares of Broderbund common stock. The acquisition was accounted for as a pooling of interests.

- Banner Blue markets the Family Tree Maker line of products that help organize family histories and find ancestors.
- Banner, founded in 1984, had 75 employees at the time of the acquisition and offices in Fremont (CA) and Provo (UT).
- Because the operating results for Banner Blue Software were not material to the combined results of Broderbund and Banner Blue, Broderbund's financials prior to the acquisition were not restated.

Employees

As of August 31, 1995, Broderbund had 563 employees, segmented as follows:

Sales, marketing, and customer service	178
Product development	203
Manufacturing and shipping	134
Administration and finance	48
	563

The company currently has approximately 625 employees.

Key Products and Services

Broderbund offers products in three consumer software categories—home productivity, education, and entertainment. The company's key products in each of these categories are described below.

Home Productivity Products

The Print Shop family of products, contributing 30% to fiscal 1995 revenue, has sold more than nine million units since the original title was introduced in 1984.

- *The Print Shop* allows users to make personalized signs, banners, stationery, labels, greeting cards, and other personal documents
- In addition to the latest release, *The Print Shop Deluxe CD Ensemble,* other products in the family include *The Print Shop Deluxe*

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Companion, several graphics folios, and *Ensemble II.*

- *The Print Shop* family of products range in price in stores from approximately $20 to $90.

3D Home Architect is a visualization and design tool. The current CD ROM version allows amateur home designers and remodelers to layout rooms or entire houses, complete with furnishings, and then view three-dimensional renderings of their work.

Through Banner Blue Software, Broderbund offers the following productivity products:

- *Family Tree Maker* genealogy software
- *Org Plus,* an organizational charting tool
- *Family Archives,* CD ROM collections of family historical data

Education Products

The *Carmen Sandiego* family of products, contributing 10% to fiscal 1995 revenue, is a series of games that are designed to motivate the player to learn more about geography and history by unraveling cultural clues. Each of the titles in the *Carmen Sandiego* family of products uses the same basic theme and story line in exposing the player to different bases of information.

- The newer releases of *Carmen Sandiego* products, *Where in the World is Carmen Sandiego?, Where in the USA is Carmen Sandiego?®,* and *Carmen Sandiego Junior Detective Edition™,* all available for Windows and Macintosh CD ROM, feature digitized images, enhanced audio capabilities, and expanded information bases. These products are accompanied by a reference book which the user can consult in solving the mystery.
- Broderbund has sold more than five million units of *Carmen Sandiego* products since the first product in the series was released in April 1985.
- The price of *Carmen Sandiego* products in the stores ranges from approximately $30 to $70.

The Early Learning family of products, contributing 10% to fiscal 1995 revenue, assists children in acquiring basis skills and developing creativity.

- The *Active Mind Series* is a growing line of single-subject educational software built with input from educators to tie into specific school activities. The initial members of the *Active Mind Series* are *The Playroom, James Discovers Math™, Math Workshop,* and *The Logical Journey of the Zoombinis™. Write, Camera, Action!* was released in July 1996. Each product teaches a different set of essential skills to children between the ages of 3 and 12.
- The StoryQuests™ series of adventure stories, developed in partnership with Capitol Multimedia, allows children ages 4 to 8 to embark on challenging adventures while helping them to obtain essential learning skills, such as logical reasoning, problem solving, phonics, creative arts, letter recognition, and counting. The series is available on Windows and Macintosh CD ROM format.
- The ImagiMaker Series™ is a line of painting, drawing, animating, and creative writing programs for children ages 3-12. Included in the series is *Kid Pix, Kid Pix Studio,* and *The Amazing Writing Machine™.*

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- Other early learning products include *The Treehouse®, The Backyard™,* and *Alien Tales™.*

- Broderbund develops materials to help teachers integrate its products into curriculum. Teacher's Guides, which are developed by educators and classroom tested, include thematic units, suggested activities for individual students, group activities, annotated bibliographies, reproducible activity sheets, audio or video cassettes, books for classroom libraries, and other materials.

- Lab Packs or Network and Site License versions of Broderbund products offer economical pricing for educators to supply multiple workstations in a school setting.

Broderbund now offers The Learning Advantage Library™ series, which features four collections (based on distinct age groups) of Broderbund products for children that help development essential skills in reading, writing, math, geography, art, and creativity.

Entertainment Products

Entertainment products contributed 24% to fiscal 1995 revenue.

Key products in this category include *Prince of Persia™, Prince of Persia 2: The Shadow and the Flame™, Myst, In the 1st Degree,* and *Learn the Art of Magic™.*

Affiliated Labels Products

Affiliated label products distributed by Broderbund are generally marketed under the name of the affiliated label company and distributed exclusively by Broderbund. Excluding Living Books, affiliated label revenue was 5% of Broderbund's total revenue in fiscal 1995.

Broderbund currently has 14 affiliated label publishers, including:

- Against All Odds Products
- Amtex Software Corp.
- Blue Sky Entertainment
- Cyan, Inc.
- Headbone Interactive
- 1 Motion Inc.
- Inroads Interactive, Inc.
- Live Picture, Inc.
- Paragraph International
- Presto Studios Inc.
- Splash Studios, Inc.
- Starwave Corporation
- Sunset New Media
- The Logic Factory
- Tsunami Media, Inc.
- Vicarious Entertainment
- Williams-Sonoma
- Living Books

Living Books is a joint venture between Broderbund and Random House to publish the *Living Books* line of CD ROM-based interactive, animated storybooks for children which allow children to learn, listen, and explore. In fiscal 1995, Living Books sales were approximately 13% of Broderbund's revenues.

Support Services

Broderbund provides telephone support.

On-line technical help to Broderbund Software customers is available via the Internet using Inference Corp.'s CBR2 knowledge publishing and distribution technology. Broderbund customers have 24-hour access to solve most software problems.

Marketing and Sales

Broderbund sells its products through distributors, software specialty retail chains, computer superstores, mass merchandisers,

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discount warehouse stores, educational dealers, and directly to users.

Broderbund's two largest distributors in fiscal 1995 accounted for approximately 22% and 13%, respectively, of total revenue.

Broderbund's 33-person national sales staff covers the U.S. and Canada and operates out of U.S. offices.

A subsidiary in England markets and distributes localized versions of the company's products to major European markets.

Broderbund has distribution arrangements in Australia, Southeast Asia, and Japan.

International distributor agreements grant the exclusive right to distribute Broderbund products in specific geographic territories. In some cases, the distributor purchases finished goods for resale. In other cases, the distributor develops a foreign language version and pays Broderbund a royalty on sales of such products.

Broderbund has a separate 11-person education group to focus on sales to schools.

Affiliated label products distributed by Broderbund are generally marketed under the name of the affiliated label company.

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BRODERBUND SOFTWARE, INC.
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Novato, CA 94948
Phone: (415) 382-4400
Fax: (415) 382-4671

Douglas G. Carlston, Chairman and CEO
Edmund R. Auer, President and COO
Public Corporation, NASDAQ
Total Employees 271 (8/91)
Total Revenue Fiscal Year End
8/31/91: $55,779,000

The Company

Broderbund Software, Inc., founded in 1980, develops and publishes microcomputer software products for the home, school, and small business markets.

- The company offers products primarily in two consumer software categories--personal productivity/graphics (*Print Shop*) products and education (*Carmen Sandiego*) products. Broderbund is also the exclusive North American distributor of entertainment products published by Maxis Software (*SimCity* and *SimEarth*).
- Broderbund's products typically employ sophisticated graphics, audio, and user interface technology and are designed to be easy to use.
- The products are available for popular personal computers including IBM, IBM compatible, and Apple Macintosh.
- Broderbund has sold over 13 million units of consumer software since its inception.

Broderbund's strategy is to identify and develop families of software products that achieve sustained consumer appeal and brand name recognition.

- In recent years the company has focused its product development efforts in the education and personal productivity market segments. Broderbund management believes that the successful products in these segments typically experience longer product life cycles than entertainment products.
- Near the end of fiscal 1991, Broderbund changed its international sales strategy from direct sales through foreign subsidiaries to licensing through foreign distributors. Although the company expects international net revenues to decline in fiscal 1992 as a result of this change, Broderbund expects higher

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gross margins on international net revenues to result from the new distribution arrangements.

In November 1991, Broderbund completed an initial public offering of approximately 3.3 million shares of common stock. All the shares were sold by stockholders.

Broderbund's fiscal 1991 revenue reached $55.8 million, an 11% increase over fiscal 1990 revenue of $50.4 million.

- Net income in fiscal 1991 reached $7.1 million, compared to net income of $3.2 million in fiscal 1990. Results for fiscal 1990 include losses of $3.1 million associated with Broderbund discontinuing the operations of its Nintendo Products Division in October 1990.

- A five-year financial summary follows:

BRODERBUND SOFTWARE, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR				
ITEM	8/91	8/90	8/89	8/88	8/87
Revenue	$55.8	$50.4	$36.8	$36.6	$27.0
· Percent increase from previous year	11%	37%	1%	36%	N/A
Income before taxes and extraordinary items	$11.6	$10.2	$4.3	$7.3	$6.3
· Percent increase (decrease) from previous year	14%	137%	(41%)	16%	N/A
Income (loss) from discontinued operations (a)	--	$(3.1)	$0.8	$1.2	$(0.2)
Net income	$7.1	$3.2	$3.4	$5.6	$3.0
· Percent increase (decrease) from previous year	122%	(6%)	(39%)	87%	N/A
Earnings per share	$0.75	$0.34	$0.36	$0.62	$0.34
· Percent increase (decrease) from previous year	121%	(6%)	(42%)	82%	N/A

(a) Reflects the operations of the company's Nintendo Products Division.

Broderbund management attributes revenue growth during fiscal 1991 primarily to the introduction of new products, increased

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demand for products that are published by third parties and distributed by Broderbund, the porting of existing titles to new hardware platforms, and the expansion of the company's sales efforts in school markets.

- New products introduced in fiscal 1991 include *The New Print Shop Companion, Kid Pix* (Macintosh version), and *SimEarth* (a Maxis Software product).

- Sales of older entertainment products and products on Apple II and Commodore platforms declined in fiscal 1991.

Research and development expenditures were approximately $7.1 million (13% of revenue) in fiscal 1991, $6.2 million (12% of revenue) in fiscal 1990, and $5.7 million (16% of revenue) in fiscal 1989.

Revenue for the three months ending November 30, 1991 reached $21.5 million, a 28% increase over $16.8 million for the same period in 1990. Net income rose 13%, from $3.0 million to nearly $3.4 million.

As of August 31, 1991, Broderbund had 271 employees, segmented as follows:

Sales and marketing	80
Product development	100
Manufacturing and shipping	57
Administration and finance	34
	271

Key Products and Services

One hundred percent of Broderbund's fiscal 1991 revenue was derived from its microcomputer software products.

- Approximately 33% of revenue was derived from sales of *The Print Shop* family of products, 26% from the *Carmen Sandiego* products, and 17% from the Maxis entertainment products.

Broderbund's products are summarized in the exhibit and include the following:

- *The Print Shop* family of products feature printing options for generating personalized signs, posters, banners, calendars, stationary, greeting cards, envelopes, and other personal documents.

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EXHIBIT

BRODERBUND SOFTWARE PRODUCTS

PRODUCT LINE	MONTH/YEAR INTRODUCED	SUGGESTED RETAIL PRICE
Personal Productivity Products		
Print Shop Family		
- The New Print Shop	5/84	$59.95
- The New Print Shop Companion	11/85	$49.95
- The New Print Shop Graphics Library Sampler Edition	11/87	$34.95
- The New Print Shop Graphics Library Party Edition	5/88	$34.95
- The New Print Shop Graphics Library School and Business Edition	9/89	$34.95
Other		
- Bank Street Writer Plus	11/82	$79.95
- BannerMania	8/89	$34.95
- TypeStyler (Macintosh only)	11/89	$219.95
Education Products		
Carmen Sandiego Family		
- Where in the World is Carmen Sandiego?	4/85	$49.95
- Where in the USA is Carmen Sandiego?	10/86	$49.95
- Where in Europe is Carmen Sandiego?	3/88	$49.95
- Where in Time is Carmen Sandiego?	8/89	$49.95
- Where in the World is Carmen Sandiego? (Deluxe edition)	9/90	$79.95
- Where in America's Past is Carmen Sandiego?	6/91	$59.95
Early Learning		
- The Playroom	10/89	$49.95
- Kid Pix	3/91	$59.95
- The Treehouse	10/91	$59.95
Entertainment Products		
SimCity	2/89	$49.95
Prince of Persia	10/89	$39.95
SimEarth	10/90	$69.95

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- *The New Print Shop* was developed by Pixellite Software and is published by Broderbund under a license agreement that extends to June 1993.

- Broderbund has sold over four million units of *The Print Shop* family of products.

· The *Carmen Sandiego* family of products is a series of games that are designed to stimulate the player's interest in and knowledge of geography and history.

- In addition to home use, the series is used in schools as an adjunct to geography and history classes as well as computer classes.

- Broderbund has sold over two million units of *Carmen Sandiego* products.

· Early Learning Products include programs of games and activities for younger children built around a theme of a child's playroom or secret hideaway, as well as a paint program created for children.

· Entertainment products include simulation and arcade-type game products.

Industry Markets

Broderbund sells its products through distributors, software specialty retail chains, computer superstores, mass merchandisers, discount warehouse stores, educational dealers, and directly to consumers and schools.

The largest of Broderbund's distributors are SoftKat, Ingram Micro, Kenfil, ABCO, and Merisel. During fiscal 1991, SoftKat and Ingram Micro accounted for approximately 19% and 14% of Broderbund's total revenues, respectively.

Geographic Markets

Approximately 88% of Broderbund's fiscal 1991 revenue was derived from the U.S., 8% from export sales, and 4% from foreign subsidiaries.

Broderbund's national sales staff operates out of seven offices located in California, Texas, Illinois, Pennsylvania, Georgia, and New Jersey.

The company also has distribution arrangements in Australia and certain European countries.

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BRODERBUND SOFTWARE, INC.
17 Paul Drive
San Rafael, CA 94903-2101
(415) 492-3200

Doug Carlston, President and CEO
Private Corporation
Total Employees: 222
Total Revenue, Fiscal Year End
12/31/88: $45,000,000

The Company

Broderbund Software, Inc. offers microcomputer software primarily for home use. Broderbund's products cover education, entertainment, graphics, and business applications.

- Broderbund was founded in 1980 by Doug and Gary Carlston, who still manage the firm's operations.
- The founders started the company selling entertainment software for TRS-80 and Apple-compatible microcomputers.

Broderbund, although it has an in-house development staff, purchases many of its ideas and fully developed software packages from independent programmers. Broderbund believes that by remaining essentially a publisher of software it incurs less fixed costs and can thus try more ideas with higher profit margins.

Broderbund filed with the SEC for its initial public offering in 1987, but elected not to follow through with this action, as it was not in a cash bind at the time. Broderbund had previously received $3 million in two rounds of venture capital backing from Burr Egan, Deleage and Co. of San Francisco, and other unnamed sources.

As of December 31, 1988, Broderbund had 222 employees, segmented as follows:

Marketing and sales	33
Customer support	11
Research and development	57
Computer operations	10
General and administrative	111
	222

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Broderbund segments its products into five categories and competes in each of these categories.

- Creativity software competitors include Epyx, Inc., Entertainment Arts, and Mediagenic.
- Education software competitors include The Learning Company and Blue Lion.
- Entertainment software competitors include Epyx, Inc., Entertainment Arts, and Mediagenic.
- Productivity software competitors include Microsoft and other publishers of word processing programs.
- Broderbund does not believe it has direct competitors for its business software products.

Key Products and Services

Broderbund currently markets approximately 70 microcomputer software products segmented into the following categories: creativity, education, business, entertainment, and productivity (some products fall into more than one category).

Broderbund markets approximately 17 creativity software products.

- Key products in this category include The Print Shop®, VCR Companion™, and Jam Session™.

Broderbund markets approximately 22 education software products.

- Key products in this category include Where in the World is Carmen Sandiego®, and Science Toolkit™.

Broderbund markets approximately 7 business software products.

- Key products in this category include Memory Mate®, and ForComment™.

Broderbund markets approximately 35 entertainment software products.

- Key products in this category include Shufflepuck Cafe™, Lode Runner®, and Star Wars®.

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Broderbund markets approximately 10 productivity software products.

- The key product in this category is Bank Street Writer Plus™.

All of Broderbund's software is microcomputer-based and runs on Apple, IBM, Commodore, Atari, and compatible computers .

Most of Broderbund's software sells for less than $100.

Broderbund operates a toll-free customer service/technical support department that handles approximately 2,100 calls per week.

Industry Markets

Broderbund sells its products primarily to the home and education markets.

Geographic Markets

INPUT estimates that Broderbund derives 75% ($33.8 million) of its revenue from the U.S., 5% from Canada, 15% from Asia, and 5% from Europe.

Broderbund maintains eight sales offices in the following locations: San Rafael and Hermosa Beach (CA), Atlanta, Chicago, Amesbury (MA), Boulder (CO), Plymouth Meeting (PA), and Dallas.

Broderbund operates two foreign subsidiaries as follows: Broderbund Japan develops and markets Japanese versions of American-developed software in Japan, and Broderbund France markets Broderbund software products in France.

Computer Hardware and Software

The company's products run on IBM, Commodore, Atari, Apple, and compatible microcomputers, and the company maintains systems from each manufacturer for development and internal uses.

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COMPANY BRIEF

Cross Industry: Other (Home Market)

Broderbund Software, Inc.
17 Paul Drive
San Rafael, CA 94903-2101
(415) 479-1700

CEO: Doug Carlston, President
Private Company
Founded: 1980

Employees: 140 (11/86)
Revenue (FYE 12/31/85): $24,000,000

The Company: Provides educational, graphics, and entertainment personal computer software products

Source of Revenue:
- Microcomputer Software (100%)

Key Products:
- In September 1986, Broderbund had 44 different packages on retailers' shelves available on IBM PC, PC/AT, and PC/XT, Apple II family, Macintosh, Commodore, and Atari computers. Best selling programs include:
 - Bank Street Series (a word processing, filer, mailer, and speller)
 - Creative Workshop Series (graphics and drawing)
 - Geometry (educational)

Target Industries:
- Home market for productivity, business, education, and entertainment applications
- Less than 10% of revenue comes from entertainment products

Geographic Markets:
- U.S. (86%)
- Non-U.S. (14%), including Japan, Canada, Australia, and Europe

Significant Events:
- Received $3 million in two rounds of venture capital

Other:
- Distributes most software through major software distributors such as Ingram, Softsel, and Micro D. Some software is sold directly to mass merchants, distributors, and individuals.

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BRS INFORMATION TECHNOLOGIES
1200 Route 7
Latham, NY 12110
(518) 783-1161

Martin Kahn, President
Division of Thyssen-Bornemiza's
Information Systems Group
Total Employees: 205
Total Revenue, Fiscal Year End
11/30/87: $21,000,000*

*INPUT estimate

The Company

BRS Information Technologies (BRS), formerly Bibliographic Retrieval Services, Inc., provides on-line information retrieval processing services and related software products.

- The company, which was incorporated in 1976, changed its name to reflect the shift in its business focus. BRS currently offers full-text consumer and medical data bases in the areas of life, physical, social, and engineering sciences as well as business, economics, general reference, and bibliographic data bases and search services.

- In November 1980, BRS was purchased by Thyssen-Bornemiza, a multi-national firm headquartered in New York City.

In November 1986, BRS purchased all the rights to the BRS/Saunders Colleague electronic mail library joint venture by acquiring the W.B. Saunders portion of the venture for an undisclosed sum.

- Saunders is the world's largest publisher of medical books. The joint venture was set up in its own facility with a combination of approximately 50-60 employees from both BRS and Saunders.

- Saunders is the world's largest publisher of medical books. The joint venture was set up in its own facility with a combination of approximately 50-60 employees from both BRS and Saunders.

- After the purchase, BRS consolidated the operation and some employees were released.

- The service is now marketed as BRS/Colleague.

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BRS' major competitors include Dialog (positioned against BRS/SEARCH Service) and The National Library of Medicine (positioned against BRS/Colleague and BRS/SEARCH Service).

Key Products and Service

One hundred percent of BRS' revenue is derived from its on-line data base search service and from the sales of its information management/retrieval software package.

The BRS Online Search Service, which became operational in January 1977, offers access to information in the fields of medicine education, science, health, business, politics, social sciences, and related interdisciplinary areas. Access to BRS' more than 50 million records is through IBM compatible terminals or microcomputers.

- BRS offers a range of data bases in the following information categories that are supplied by various producers:

 - Medicine/Pharmacology. Producers include National Library of Medicine (NLM), and National Cancer Institute.

 - Physical/Applied Sciences. Producers include Chemical Abstracts Service, Institute for Scientific Information, Information Handling Services, and other various producers.

 - Life Sciences. Producers include National Agricultural Library (NAL), BioSciences Information Services, CAB International, Institute for Scientific Information, the U.S. Department of Commerce, and Cambridge Scientific Abstracts.

 - Business. Producers including UMI/Data Courier, CAB International, Disclosure Information Group, NTIS, John Wiley & Sons, Inc., Predicasts, Inc., and Information Access Company.

 - Social Science/Humanities. Producers include The American Association of Retired Person, University of Minnesota College of Pharmacy, Catalyst Library, Sociological Abstract, American Psychological Association, and the National Association of Social Workers.

 - Education. Producers include Educational Testing Service, the National Institute of Education, Council for Exceptional Children, Peterson's Guides, Inc., Ontario Ministry of

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Education, and National Center for Research in Vocational Education.

- Reference/Multidisciplinary. Producers include Grolier Electronic Publishing, Inc., Information Access Company, and R.R. Bowker.

- BRS offers BRS/Colleague, an electronic medical library that allows a user to access the following collections:

 - Journal & Periodical Collection, the full-text of various journals including ACOG Technical Bulletin, American Journal of Surgery, British Heart Journal, Clinical Diabetes, the Journal of Pediatrics, Neurology, New England Journal of Medicine, Lancet, and Thorax.

 - Book Collection, the full-text of various books including The Merck Manual, Instructions for Patients, The Physician's Book of Lists, the Textbook of Surgery, and Gray's Anatomy.

 - Special References includes Physician's Data Query, Drug Information Fulltext, Cancer Treatment Reports, Journal of the National Cancer Institute, Merck Index, and Journal Watch.

 - Bibliographic Collection contains bibliographic data bases.

 - Indexes And Abstracts, includes various abstracts and indexes related to the medical field such as AIDS Abstracts From the Bureau of Hygiene and Tropical Diseases, CANCERLIT,Cumulative Index to Nursing and Allied Health Literature, Health Planning and Administration, Medical and Psychological Previews, and MEDLINE.

 - Colleague Mail Services includes Colleague Electronic Mail, Colleague Electronic Mail Directory, and Electronic Bulletin Boards.

- BRS' data base services are available as follows:

 - BRS/After Dark provides users with inexpensive access to various BRS data bases. The service is available from 6 P.M. to midnight (EST) at a price of $75 for a one-time subscription fee, a minimum monthly charge of $12, and from $8 to $36 per hour for information access.

 - BRS/Colleague provides medical professionals access to various medical information 22 hours per day. Monthly

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rates are $95 for a one-time subscription fee and from $30 to $85 per hour for information access.

- The BRS Selective Dissemination of Information (SDI) Service allows users to automatically update stored subject profiles monthly as data base updates are run. An on-line editing capability allows the searcher to make any necessary changes in a stored SDI profile without rerunning the search.

- The BRS/CROS data base enables users to search all or selected groupings of BRS data bases at once, allowing users to determine which are appropriate to do further in-depth searches for their chosen topics.

- BRS also provides users with various sign-up options:

 - The Open Access Plan allows users to access BRS data bases a $25 per connect hour plus royalties and telecommunications charges, with no specific usage commitment from the user.

 - The Subscription Plan provides high-volume users with lower connect-hour rates. Rates range from $10 to $12 per connect hour plus royalties and telecommunications costs.

BRS' sole software product is BRS/SEARCH, an information management/retrieval package that enables users to develop data bases, update records, retrieve information, and generate reports.

- BRS/SEARCH was developed by BRS and runs the company's on-line retrieval services.

- The system is structured to enable users to sign on, enter complicated search strategies, retrieve results, and sign off with a minimum of interaction.

- BRS/SEARCH's free text feature allows for direct positional searching of terms within documents, using all levels of logic and narrowing down to the exact word position. This feature enables users to search unstructured text, such as abstracts or depositions.

- A full text option allows for direct positional searching of longer documents such as journals, contracts, and complete books.

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- BRS/SEARCH has a compression feature that provides savings in CPU time, disk storage space, and transfers to peripheral devices.
- Two versions of BRS/SEARCH are available as follows:
 - The Micro/Mini Version, which is priced from $2,000 to $30,000, runs on HP 9000 and DEC VAX 11/7XX series minicomputers under UNIX and VMS; and on Onyx, Altos, NCR Tower, Zilog, and Fortune microcomputers under UNIX.
 - The mainframe version runs on IBM and compatible computers under MVS. Pricing for this version ranges from $60,000 to $150,000.
- BRS/SEARCH competes directly with IBM's STAIRS, Battelle Columbus Labs' BASIS, and Info Data's INQUIRE.
- BRS management feels that BRS/SEARCH is the best information management/retrieval system available, because of its full-text capability, compression algorithm (which reduces the amount of disk storage used), and pricing (below that for competitors' products).

BRS customer support services include:

- A BRS system reference manual.
- Toll-free telephone support services.
- Bi-monthly BRS user bulletins.
- Offline printing.

Industry Markets

BRS' Online Search Service and related software products are used across industry sectors.

Geographic Markets

The majority of BRS' revenue is derived from the U.S. The remaining revenue is derived from Canada, Europe, Japan, and the Middle East.

Branch offices are located in New York City and Philadelphia.

Computer Hardware and Software

BRS maintains the following computers at its Latham headquarters:

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- 1 NAS XL70.
- 1 IBM 3705.
- 2 IBM 3725s.
- 11 minicomputers with various memory and disk storage space.

Access to BRS' Online Search Service, which currently has approximately 50,000 passwords, is through leased and WATS lines, Telenet, and TYMNET.

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COMPANY HIGHLIGHT

BRS
1200 Route 7
Latham, NY 12110
(518) 783-1161

William Marovitz, President
Division of Thyssen-Bornemiza's
Information Technology Group
Total Employees: 130
Total Revenue, Fiscal Year End
10/30/83: $8,000,000*

THE COMPANY

- BRS, formerly Bibliographic Retrieval Services, Inc. (BRS), provides on-line information retrieval services and related software products.
- The company, which was incorporated in 1976, changed its name to reflect the shift in its business focus. BRS currently offers full-text consumer and medical data bases encompassing the areas of life, physical, social, and engineering sciences as well as business, economics, general reference, and bibliographic data bases and search services.
- In November 1980 BRS was purchased by Thyssen-Bornemiza, a multinational firm headquartered in New York City.
- As of fiscal 1983 BRS had 130 employees. There are currently 150 employees.
- BRS' major competitors include Dialog, CompuServe, and The National Library of Medicine.

KEY PRODUCTS AND SERVICES

- Eighty-six percent of BRS' fiscal 1983 revenue was derived from its on-line data base search service. The remaining 16% of revenue was generated from the sale of its information management/retrieval software package.
 - BRS/SEARCH, which was developed by BRS and will run their on-line retrieval service starting in early 1985, is an information management/retrieval software package that enables users to develop data bases, update records, retrieve information, and generate reports.
 - The system, which combines sophisticated and flexible searching techniques with an easy-to-learn interactive dialog, is structured to enable users to sign on, enter complicated search strategies, retrieve results, and sign off with a minimum of interaction.

*INPUT estimate

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- BRS/SEARCH's free text feature allows for direct positional searching of terms within documents, using all levels of logic and narrowing down to the exact word position. This feature enables users to search unstructured text, such as abstracts or depositions.

- A full text option allows for direct positional searching of longer documents such as journals, contracts, and complete books.

- BRS/SEARCH has a compression feature that provides savings in CPU time, disk storage space, and I/Os to peripheral devices.

- Additional software features include:

 - Streamlined interactive dialog.
 - Standard Boolean operators as well as special proximity operators, which provide precise retrieval at the paragraph, sentence, or word level.
 - On-line synonym or equivalent-term processing.
 - Full-pattern matching, allowing right-hand, left-hand, and embedded truncation capabilities, including truncation limiting.
 - Powerful paragraph qualification features, including post-search qualification of search entries.
 - Special search commands that display words in the data base containing the specified stem and which accept paragraph qualification.
 - SAVESEARCH feature for storing search strategies for later recall.
 - Range searching of numeric or textual information, including the use of comparative operators such as equal-to, greater-than, and less-than operators.
 - Rapid browsing capability for on-line document display and selection, including an automatic display feature for a given range of documents.
 - Extensive print capabilities, including queuing for later display or remote printing.
 - Multiple field sorting of both on-line and queued output.
 - A total data base security system, including data base passwords and user privilege-level control.
 - Full-text searching of multi-page documents, including in-context results, within-document browsing, and word highlighting.
 - A numeric processing capability that combines free text searching and numeric processing (such as average or total) in a single operation.
 - Right- or left-hand truncation capabilities, including limited truncation.
 - Up to 10 levels of nested logic in a single search combination of Boolean and statement, using any positional operators and truncation.

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- Two versions of BRS/SEARCH, which were released in January 1983, are offered.
 - The Micro/Mini Version, which is priced from $2,000 to $30,000, runs on HP 9000 and DEC VAX 11/7XX series minicomputers under UNIX and VMS; and on Onyx, Altos, NCR Tower, Zilog, and Fortune microcomputers under UNIX.
 - The mainframe version runs on IBM and IBM plug-compatible computers under MVS. Pricing for this version ranges from $60,000 to $150,000.
- BRS/SEARCH competes directly with IBM's STAIRS, Batelle Columbus Labs' BASIS, and Info Data's INQUIRE.
- BRS management feels that BRS/SEARCH is the best information management/retrieval system available, because of its full-text capability, compression algorithm (which reduces the amount of disk storage used), and pricing (below that for competitors' products).
- In August 1984 a new module, BRS/MENTOR, will be released. This module is a user friendly screen-driven interface that will enable users to develop menus and change commands. The module will be priced at $10,000.

- The BRS Online Search Service, which became operational in January 1977, offers access to information in the fields of medicine, education, science, health, business, politics, social sciences, and related interdisciplinary areas. Access to BRS' more than 50 million records is through compatible terminals or microcomputers. A listing of available data bases is provided in the exhibit.
 - The following BRS service offerings are available:
 - BRS/AFTER DARK provides users with inexpensive access to various BRS data bases. The service is available from 6 P.M. to Midnight (EST) at a reduced fee of $50 for a one-time subscription fee, a minimum monthly charge of $12, and from $6 to $16.50 per hour for information access.
 - BRS/COLLEAGUE provides medical professionals access to various medical information 22 hours per day:
 - Complete medical texts and journals as well as bibliographic and reference materials are available to users in a menu-driven format.

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EXHIBIT
BRS DATA BASES

DATABASE	LABEL	PRODUCER	DESCRIPTION
SCIENCES/MEDICINE			
AGRICOLA	CAIN	National Agricultural Library (NAL)	Agriculture
AMERICAN CHEMICAL SOCIETY PRIMARY JOURNAL DATABASE	CFTX	American Chemical Society	Chemistry, full-text coverage
BIOSIS PREVIEWS (AND BACKFILE)	BIOL (BIOB)	BioSciences Information Service	Biological sciences
CA SEARCH (AND BACKFILE)	CHEM (CHEB)	Chemical Abstracts Service	Chemistry
CA SEARCH TRAINING	CAST	Chemical Abstracts Service	Chemistry
COMPENDEX	COMP	Engineering Information, Inc.	Engineering
DISC	DISC	BRS	Microcomputing literature
EPILEPSYLINE	EPIL	National Institute of Neurological and Communicative Disorders and Stroke (NINCDS)	Material on epilepsy and related issues
EXCERPTA MEDICA	EMED	Exerpta Medica	Biomedicine and health
HEALTH AUDIO-VISUAL ONLINE CATALOG	HAVC	Northeastern Ohio Universities	Audiovisual materials in medicine
HEALTH PLANNING AND ADMINISTRATION	HLTH	National Library of Medicine (NLM)	Health economics, administration and planning
INSPEC (AND BACKFILE)	INSP (INSB)	Institute of Electrical Engineers, London, England	Engineering, physics, and computer science
INTERNATIONAL PHARMACEUTICAL ABSTRACTS	IPAB	American Society of Hospital Pharmacists	Pharmaceutical and drug-related information
IRCS MEDICAL SCIENCE DATABASE	IRCS	IRCS Medical Science	Full-text biomedical research
KIRK-OTHMER ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY	KIRK	John Wiley & Sons, Inc.	Chemical technology, full-text coverage
MATHEMATICAL REVIEWS ONLINE (MATHFILE)	MATH	American Mathematical Society	Mathematics
MEDLARS-ON-LINE (MEDLINE AND BACKFILES)	MESH (MS78) (MS74) (MS70)	National Library of Medicine (NLM)	Medicine, nursing, dentistry
NTIS	NTIS	National Technical Information Service	Government reports, all areas
POLLUTION ABSTRACTS	POLL	Cambridge Scientific Abstracts	Pollution
PRE-MED	PREM	BRS	Current clinical medicine
ROBOTICS INFORMATION	RBOT	Cincinnati Milacron Industries, Inc.	Robotics
SUPERINDEX	SUPE	Superindex, Inc.	Science, medicine, technology, and engineering
BUSINESS/FINANCIAL			
ABI/INFORM	INFO	Data Courier, Inc.	Business
FINTEL FINANCIAL TIMES OF LONDON	FNTL	Information Industries, Inc.	Business
HARFAX INDUSTRY DATA SOURCES	HARF	Harfax Database Publishing	Industry Data
HARVARD BUSINESS REVIEW/ ONLINE	HBRO	John Wiley and Sons (electronic publisher)	Business and management
INDEX TO FROST & SULLIVAN MARKET RESEARCH REPORTS	FSIS	Frost & Sullivan, Inc.	Market research information
INDUSTRY AND INTER-NATIONAL STANDARDS	STDS	Information Handling Services	Engineering standards
MANAGEMENT CONTENTS	MGMT	Management Contents, Inc.	Business
MILITARY AND FEDERAL SPECIFICATIONS AND STANDARDS	MLSS	Information Handling Services	Military and federal specifications and standards
PATDATA	PATS	BRS	All patents registered through U.S. Patent Office
PREDICASTS ANNUAL REPORTS ABSTRACTS	PTSA	Predicasts, Inc.	Company-specific business and economic information
PREDICASTS: PROMT/ F&S INDEX/HISTORICAL ANNUAL TIME SERIES/ FORECASTS (AND BACKFILE)	PTSP PTSI PTSH PTSF (PTSB)	Predicasts, Inc.	Business and economics
VOLUNTARY STANDARDS INFORMATION NETWORK	VSIN	Information Handling Services	Voluntary standards

Continued

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EXHIBIT (Cont.)
BRS DATA BASES

DATABASE	LABEL	PRODUCER	DESCRIPTION
REFERENCE			
ACADEMIC AMERICAN ENCYCLOPEDIA DATABASE	AAED	Grolier Electronic Publishing, Inc.	Multi-disciplinary encyclopedia
AMERICAN MEN AND WOMEN OF SCIENCE	MWSC	R.R. Bowker	Directory of scientists
BOOKS IN PRINT	BBIP	R.R. Bowker	U.S. books in print
BOOKSINFO	BOOK	Brodart, Inc.	800,000 books in print
CALIFORNIA UNION LIST OF PERIODICALS	CULP	California Library Authority for Systems and Services (CLASS)	California periodicals holdings
DISSERTATION ABSTRACTS	DISS	University Microfilms	Multi-disciplinary
GPO MONTHLY CATALOG	GPOM	U.S. Government Printing Office	Government publications
ULRICH'S INTERNATIONAL	ULRI	R.R. Bowker	Directory of periodicals
USBE MOST-AVAILABLE TITLES	USBE	Universal Serials and Book Exchange, Inc.	10,000 serial titles available for distribution
EDUCATION			
BILINGUAL EDUCATION BIBLIOGRAPHIC ABSTRACTS	BEBA	National Clearinghouse for Bilingual Education	Bilingual/bicultural education
EDUCATIONAL TESTING SERVICE TEST COLLECTION	ETSF	Education Testing Service	Education testing materials
ERIC	ERIC	National Institute of Education	Education
EXCEPTIONAL CHILD EDUCATION RESOURCES	ECER	Council for Exceptional Children	Exceptional child education
ONTARIO EDUCATION RESOURCES INFORMATION DATABASE	ONED	Ontario Ministry of Education	Educational research, reports, and curriculum guidelines
RESOURCES IN COMPUTER EDUCATION	RICE	Northwest Regional Educational Laboratory	Computer applications in education
SCHOOL PRACTICES INFORMATION FILE	SPIF	BRS Education Service Group	School practices
VOCATIONAL EDUCATION CURRICULUM MATERIALS	VECM	National Center for Research in Vocational Education	Vocational curriculum materials
SOCIAL SCIENCES/HUMANITIES			
ABLEDATA	ABLE	National Rehabilitation Information Center	Rehabilitation products for the disabled
ALCOHOL USE/ABUSE	HAZE	University of Minnesota College of Pharmacy	Alcoholism
CATALYST RESOURCES FOR WOMEN	CRFW	Catalyst Library	Current information on women and careers
DRUGINFO	DRSC	University of Minnesota College of Pharmacy	Drug abuse
FAMILY RESOURCES	NCFR	National Council on Family Relations	Marriage and family literature
JOURNAL OF THE SOCIETY OF ARCHITECTURAL HISTORIANS	JSAH	Society of Architectural Historians	Architectural history
LANGUAGE AND LANGUAGE BEHAVIOR ABSTRACTS	LLBA	Sociological Abstracts	Language and linguistics
MENTAL MEASUREMENTS YEARBOOK	MMYD	Buros Institute Mental Measurements	Standardized testing materials
MLA BIBLIOGRAPHY	MLAB	Modern Language Association of America	Language, linguistics and folklore
NARIC	NRIC	National Rehabilitation Information Center	Rehabilitation literature
NIMH	NCMH	National Institute of Mental Health	Mental health and related information
PUBLIC AFFAIRS INFORMATION SERVICE	PAIS	Public Affairs Information Service	All social sciences
PSYCINFO	PSYC	American Psychological Association	Psychology
RELIGION INDEX	RELI	American Theological Library Association	Religion
SOCIAL SCIENCE CITATION INDEX (AND BACKFILE)	SSCI (SSCB)	Institute for Scientific Information	Social science
SOCIOLOGICAL ABSTRACTS	SOCA	Sociological Abstracts	Sociology and related disciplines
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BRS BULLETIN ONLINE	BULL	BRS	BRS BULLETIN online
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MESSAGES	MSGS	BRS	Electronic message switching
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Continued

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BRS/COLLEAGUE DATA BASES

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Acute Renal Failure	Antoine Chapman	Churchill Livingstone	1980
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 - A BRS system reference manual.
 - Toll-free telephone support services.
 - Monthly BRS user bulletins.
 - Offline printing.

INDUSTRY MARKETS

- BRS' Online Search Services and related software products are used across industry sectors.

GEOGRAPHIC MARKETS

- The majority of BRS' fiscal 1983 revenue was derived from the U.S. The remaining revenue was derived from Canada, Europe, Japan, and the Middle East.

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COMPUTER HARDWARE AND SOFTWARE

- BRS maintains the following computers at its Latham headquarters:
 - 1 NAS 9050, MVS.
 - 1 PDP 11/70, UNIX.
 - 1 DEC VAX 11/730, UNIX.
 - 1 Onyx, UNIX.
 - 4 Fortune 3216s, UNIX.
 - 1 NCR Tower 1632, UNIX.
 - 1 IBM PC/XT, UNIX.
- Access to BRS' Online Search Service, which currently has approximately 12,000 passwords, is through leased and WATS lines, Telenet, Tymnet, and Uninet.

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COMPANY HIGHLIGHT

BRS
1200 Route 7
Latham, NY 12110
(518) 783-1161

William Marovitz, President
Division of Thyssen-Bornemiza's
Information Technology Group
Total Employees: 130
Total Revenue, Fiscal Year End
10/30/83: $8,000,000*

THE COMPANY

- BRS, formerly Bibliographic Retrieval Services, Inc. (BRS), provides on-line information retrieval services and related software products.
- The company, which was incorporated in 1976, changed its name to reflect the shift in its business focus. BRS currently offers full-text consumer and medical data bases encompassing the areas of life, physical, social, and engineering sciences as well as business, economics, general reference, and bibliographic data bases and search services.
- In November 1980 BRS was purchased by Thyssen-Bornemiza, a multinational firm headquartered in New York City.
- As of fiscal 1983 BRS had 130 employees. There are currently 150 employees.
- BRS' major competitors include Dialog, CompuServe, and The National Library of Medicine.

KEY PRODUCTS AND SERVICES

- Eighty-six percent of BRS' fiscal 1983 revenue was derived from its on-line data base search service. The remaining 16% of revenue was generated from the sale of its information management/retrieval software package.
 - BRS/SEARCH, which was developed by BRS and will run their on-line retrieval service starting in early 1985, is an information management/retrieval software package that enables users to develop data bases, update records, retrieve information, and generate reports.
 - The system, which combines sophisticated and flexible searching techniques with an easy-to-learn interactive dialog, is structured to enable users to sign on, enter complicated search strategies, retrieve results, and sign off with a minimum of interaction.

*INPUT estimate

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- BRS/SEARCH's free text feature allows for direct positional searching of terms within documents, using all levels of logic and narrowing down to the exact word position. This feature enables users to search unstructured text, such as abstracts or depositions.

- A full text option allows for direct positional searching of longer documents such as journals, contracts, and complete books.

- BRS/SEARCH has a compression feature that provides savings in CPU time, disk storage space, and I/Os to peripheral devices.

- Additional software features include:

 - Streamlined interactive dialog.
 - Standard Boolean operators as well as special proximity operators, which provide precise retrieval at the paragraph, sentence, or word level.
 - On-line synonym or equivalent-term processing.
 - Full-pattern matching, allowing right-hand, left-hand, and embedded truncation capabilities, including truncation limiting.
 - Powerful paragraph qualification features, including post-search qualification of search entries.
 - Special search commands that display words in the data base containing the specified stem and which accept paragraph qualification.
 - SAVESEARCH feature for storing search strategies for later recall.
 - Range searching of numeric or textual information, including the use of comparative operators such as equal-to, greater-than, and less-than operators.
 - Rapid browsing capability for on-line document display and selection, including an automatic display feature for a given range of documents.
 - Extensive print capabilities, including queuing for later display or remote printing.
 - Multiple field sorting of both on-line and queued output.
 - A total data base security system, including data base passwords and user privilege-level control.
 - Full-text searching of multi-page documents, including in-context results, within-document browsing, and word highlighting.
 - A numeric processing capability that combines free text searching and numeric processing (such as average or total) in a single operation.
 - Right- or left-hand truncation capabilities, including limited truncation.
 - Up to 10 levels of nested logic in a single search combination of Boolean and statement, using any positional operators and truncation.

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- Two versions of BRS/SEARCH, which were released in January 1983, are offered.
 - The Micro/Mini Version, which is priced from $2,000 to $30,000, runs on HP 9000 and DEC VAX 11/7XX series minicomputers under UNIX and VMS; and on Onyx, Altos, NCR Tower, Zilog, and Fortune microcomputers under UNIX.
 - The mainframe version runs on IBM and IBM plug-compatible computers under MVS. Pricing for this version ranges from $60,000 to $150,000.
- BRS/SEARCH competes directly with IBM's STAIRS, Batelle Columbus Labs' BASIS, and Info Data's INQUIRE.
- BRS management feels that BRS/SEARCH is the best information management/retrieval system available, because of its full-text capability, compression algorithm (which reduces the amount of disk storage used), and pricing (below that for competitors' products).
- In August 1984 a new module, BRS/MENTOR, will be released. This module is a user friendly screen-driven interface that will enable users to develop menus and change commands. The module will be priced at $10,000.

- The BRS Online Search Service, which became operational in January 1977, offers access to information in the fields of medicine, education, science, health, business, politics, social sciences, and related interdisciplinary areas. Access to BRS' more than 50 million records is through compatible terminals or microcomputers. A listing of available data bases is provided in the exhibit.
 - The following BRS service offerings are available:
 - BRS/AFTER DARK provides users with inexpensive access to various BRS data bases. The service is available from 6 P.M. to Midnight (EST) at a price of $50 for a one-time subscription fee, a minimum monthly charge of $12, and from $6 to $16.50 per hour for information access.
 - BRS/COLLEAGUE provides medical professionals access to various medical information 22 hours per day:
 - Complete medical texts and journals as well as bibliographic and reference materials are available to users in a menu-driven format.

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EXHIBIT
BRS DATA BASES

DATABASE	LABEL	PRODUCER	DESCRIPTION
SCIENCES/MEDICINE			
AGRICOLA	CAIN	National Agricultural Library (NAL)	Agriculture
AMERICAN CHEMICAL SOCIETY PRIMARY JOURNAL DATABASE	CFTX	American Chemical Society	Chemistry, full-text coverage
BIOSIS PREVIEWS (AND BACKFILE)	BIOL (BIOB)	BioSciences Information Service	Biological sciences
CA SEARCH (AND BACKFILE)	CHEM (CHEB)	Chemical Abstracts Service	Chemistry
CA SEARCH TRAINING	CAST	Chemical Abstracts Service	Chemistry
COMPENDEX	COMP	Engineering Information, Inc.	Engineering
DISC	DISC	BRS	Microcomputing literature
EPILEPSYLINE	EPIL	National Institute of Neurological and Communicative Disorders and Stroke (NINCDS)	Material on epilepsy and related issues
EXCERPTA MEDICA	EMED	Exerpta Medica	Biomedicine and health
HEALTH AUDIO-VISUAL ONLINE CATALOG	HAVC	Northeastern Ohio Universities	Audiovisual materials in medicine
HEALTH PLANNING AND ADMINISTRATION	HLTH	National Library of Medicine (NLM)	Health economics, administration and planning
INSPEC (AND BACKFILE)	INSP (INSB)	Institute of Electrical Engineers, London, England	Engineering, physics, and computer science
INTERNATIONAL PHARMACEUTICAL ABSTRACTS	IPAB	American Society of Hospital Pharmacists	Pharmaceutical and drug-related information
IRCS MEDICAL SCIENCE DATABASE	IRCS	IRCS Medical Science	Full-text biomedical research
KIRK-OTHMER ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY	KIRK	John Wiley & Sons, Inc.	Chemical technology, full-text coverage
MATHEMATICAL REVIEWS ONLINE (MATHFILE)	MATH	American Mathematical Society	Mathematics
MEDLARS-ON-LINE (MEDLINE AND BACKFILES)	MESH (MS78) (MS74) (MS70)	National Library of Medicine (NLM)	Medicine, nursing, dentistry
NTIS	NTIS	National Technical Information Service	Government reports, all areas
POLLUTION ABSTRACTS	POLL	Cambridge Scientific Abstracts	Pollution
PRE-MED	PREM	BRS	Current clinical medicine
ROBOTICS INFORMATION	RBOT	Cincinnati Milacron Industries, Inc.	Robotics
SUPERINDEX	SUPE	Superindex, Inc.	Science, medicine, technology, and engineering
BUSINESS/FINANCIAL			
ABI/INFORM	INFO	Data Courier, Inc.	Business
FINTEL FINANCIAL TIMES OF LONDON	FNTL	Information Industries, Inc.	Business
HARFAX INDUSTRY DATA SOURCES	HARF	Harfax Database Publishing	Industry Data
HARVARD BUSINESS REVIEW/ ONLINE	HBRO	John Wiley and Sons (electronic publisher)	Business and management
INDEX TO FROST & SULLIVAN MARKET RESEARCH REPORTS	FSIS	Frost & Sullivan, Inc.	Market research information
INDUSTRY AND INTER-NATIONAL STANDARDS	STDS	Information Handling Services	Engineering standards
MANAGEMENT CONTENTS	MGMT	Management Contents, Inc.	Business
MILITARY AND FEDERAL SPECIFICATIONS AND STANDARDS	MLSS	Information Handling Services	Military and federal specifications and standards
PATDATA	PATS	BRS	All patents registered through U.S. Patent Office
PREDICASTS ANNUAL REPORTS ABSTRACTS	PTSA	Predicasts, Inc.	Company-specific business and economic information
PREDICASTS: PROMT/ F&S INDEX/HISTORICAL ANNUAL TIME SERIES/ FORECASTS (AND BACKFILE)	PTSP PTSI PTSH PTSF (PTSB)	Predicasts, Inc.	Business and economics
VOLUNTARY STANDARDS INFORMATION NETWORK	VSIN	Information Handling Services	Voluntary standards

Continued

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EXHIBIT (Cont.)
BRS DATA BASES

DATABASE	LABEL	PRODUCER	DESCRIPTION
REFERENCE			
ACADEMIC AMERICAN ENCYCLOPEDIA DATABASE	AAED	Grolier Electronic Publishing, Inc.	Multi-disciplinary encyclopedia
AMERICAN MEN AND WOMEN OF SCIENCE	MWSC	R.R. Bowker	Directory of scientists
BOOKS IN PRINT	BBIP	R.R. Bowker	U.S. books in print
BOOKSINFO	BOOK	Brodart, Inc.	800,000 books in print
CALIFORNIA UNION LIST OF PERIODICALS	CULP	California Library Authority for Systems and Services (CLASS)	California periodicals holdings
DISSERTATION ABSTRACTS	DISS	University Microfilms	Multi-disciplinary
GPO MONTHLY CATALOG	GPOM	U.S. Government Printing Office	Government publications
ULRICH'S INTERNATIONAL	ULRI	R.R. Bowker	Directory of periodicals
USBE MOST-AVAILABLE TITLES	USBE	Universal Serials and Book Exchange, Inc.	10,000 serial titles available for distribution
EDUCATION			
BILINGUAL EDUCATION BIBLIOGRAPHIC ABSTRACTS	BEBA	National Clearinghouse for Bilingual Education	Bilingual/bicultural education
EDUCATIONAL TESTING SERVICE TEST COLLECTION	ETSF	Education Testing Service	Education testing materials
ERIC	ERIC	National Institute of Education	Education
EXCEPTIONAL CHILD EDUCATION RESOURCES	ECER	Council for Exceptional Children	Exceptional child education
ONTARIO EDUCATION RESOURCES INFORMATION DATABASE	ONED	Ontario Ministry of Education	Educational research, reports, and curriculum guidelines
RESOURCES IN COMPUTER EDUCATION	RICE	Northwest Regional Educational Laboratory	Computer applications in education
SCHOOL PRACTICES INFORMATION FILE	SPIF	BRS Education Service Group	School practices
VOCATIONAL EDUCATION CURRICULUM MATERIALS	VECM	National Center for Research in Vocational Education	Vocational curriculum materials
SOCIAL SCIENCES/HUMANITIES			
ABLEDATA	ABLE	National Rehabilitation Information Center	Rehabilitation products for the disabled
ALCOHOL USE/ABUSE	HAZE	University of Minnesota College of Pharmacy	Alcoholism
CATALYST RESOURCES FOR WOMEN	CRFW	Catalyst Library	Current information on women and careers
DRUGINFO	DRSC	University of Minnesota College of Pharmacy	Drug abuse
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Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

April 1996

BSG Alliance/IT, Inc.

Chairman, President
& CEO: Steven G. Papermaster
701 Brazos Street
Suite 700
Austin, TX 78701
Phone: (512) 703-1000
Fax: (512) 320-8377

Leading the change. Together.℠

Status:	Private
Employees:	600 (3/96)
Revenue:	$69,700,000
Fiscal Year End:	12/31/95

Key Points

- BSG has built a reputation as the next-generation information technology (IT) company using client/server and other emerging technologies to help customers meet their business goals and objectives.
- The company has capitalized on its success in the energy business and expanded its business and technology expertise into other industries, including multi-unit retail, manufacturing, insurance, transportation, telecommunications, pharmaceuticals, and consumer products.
- In March 1996, BSG and Medaphis Corporation announced a definitive agreement to merge, with BSG becoming a wholly owned subsidiary of Medaphis.
- In January 1996, BSG acquired Exact Systems, a systems integration company specializing in customer service, support, and management systems.
- BSG's revenues grew by 62% during 1995 to $69.7 million.
- In October 1995, the company relocated its headquarters to Austin (TX).

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Company Description

BSG Alliance/IT, Inc. is a next-generation IT services company, providing services that include client/server systems integration and management, business process innovation and change management consulting, skills transfer, and education. From its beginning, BSG has maintained a focus on client/server technology—a clear differentiation from other systems integrators.

In March 1996, Medaphis Corporation announced a definitive agreement to acquire BSG for approximately 7.5 million shares of Medaphis common stock and assumption by Medaphis of BSG stock options and stock rights representing an additional 2.66 million shares of Medaphis common stock.

- The transaction, valued at an estimated $350 million, will be accounted for as a pooling of interests and is expected to close by the end of June 1996.
- The acquisition will bring significant client/server capabilities to Medaphis and form the basis for an aggressive program of expansion of Medaphis' information technology services business.
- BSG will become a wholly owned subsidiary of Medaphis. Steven G. Papermaster will remain chairman, president and chief executive officer of BSG.
- Upon completion of the merger, Medaphis' systems integration and IT services companies (Imonics Corporation and Rapid Systems Solutions, Inc.) will operate under the BSG umbrella.
- Imonics Corporation, based in Cary (NC) with 350 employees and 1995 revenue of $45 million, provides information technology solutions to customer service organizations and other business operations that process large volumes of paper, faxes, or phone calls.
- Rapid Systems Solutions, Inc., based in Columbia (MD) with more than 200 employees and 1995 revenue of $14.7 million, provides client/server systems integration and application development services.
- Based in Atlanta (GA), Medaphis provides business management systems and services, primarily to the health care industry.

Structure and Operations

Effective January 1995, BSG reorganized its three related operating units for education (BSG Education), consulting (BSG Consulting), and long-term systems development (BSG Alliance/IT) into a single operating company, BSG Alliance/IT, Inc.

Along with this organization change, the company has recruited a new, experienced group of executives for the management team.

- Steven G. Papermaster—Chairman, CEO and President—founded BSG in 1987.
- Key BSG executives are summarized in the exhibit.

BSG Key Executives

Name	Title
Steven G. Papermaster	Chairman, CEO and President
Robert E. Pickering, Jr.	EVP, Operations/Market Development
Norman D. Smith	EVP, Operations
David Lundeen	EVP, CFO

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BSG has offices in Austin, Dallas and Houston (TX); Atlanta (GA); Boston (Newton, MA); Chicago (Rosemont, IL); Minneapolis (Roseville, MN); New York (NY); Philadelphia (PA); San Francisco (CA); and Washington, D.C. (Landover, MD).

- Market Segment Leaders run each office with help from directors in each office. Projects are staffed by consulting professionals.

- The structure includes managers, supervisors, consultants, and support staff.

Corporate Culture

BSG believes that only by embracing change can companies successfully compete in the constantly accelerating business environment.

- The willingness to accept change and the ability to take a leadership role in defining and implementing far-reaching change is at the root of BSG's corporate culture.

- BSG's commitment to change includes changing the metaphors we live by in order to reshape the ways we live and work. BSG uses the term "metaphorphosis" to describe this ability to question basic assumptions and conceive new metaphors for action. For example, BSG employees hold their "reunions" or company meetings several times each year to underscore the accelerated pace of today's business world.

- Within the BSG community, people and functions are frequently redeployed to meet changing needs.

Company Strategy

BSG's mission is to partner with its customers for successful transformation of their businesses through technology. Its strategy is to develop long-term relationships with customers (in BSG's words, "alliance/IT programs," as opposed to the traditional nomenclature of "systems integration" or "outsourcing contracts") and provide not just client/server technology services, but also change and business process management services.

"High Performance IT" is BSG's unique services approach for teaming with customers to change their business and technology processes.

- More than just another big systems development life cycle methodology, High Performance IT addresses change in all areas affecting a company's IT processes—its *people*, *processes*, and *technology*.

- To do this, the BSG/customer team works through several stages of creating, much like the stages in building a house. The stages range from understanding and blueprinting the new business and technology processes, to implementing and sustaining changes in the new processes.

- Although each of these stages is important, High Performance IT is action oriented. This is best represented by "quick hit" initiatives with immediate payback, like the rollout of an interdepartmental network and multiple Lotus Notes applications to capture and manage forms. These quick hits may occur through each stage, while more complex applications and process changes are being delivered.

Partnership is central to BSG's strategy. BSG co-manages projects with its customers and shares with them in both risks and rewards. The company pursues partnerships in three ways:

- Through joint development, capitalization and support of specific *product offerings*;

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- Through *joint ventures* offering complementary services on a global basis; and

- By *partnering with its customers* to manage each step of the business transformation process from the boardroom to the desktop—a partnership BSG refers to as *Alliance/IT*.

The *joint enterprise* between BSG and Philips Communications and Processing Services, a fully owned subsidiary of Netherlands-based Philips Electronics N.V., is an example of a services-based partnership, giving BSG a partner in Europe and Philips a consulting partner in the U.S. In addition, BSG works with various divisions of Philips.

An *alliance/IT partnership* is a guiding principle in all of BSG's relationships with its clients. BSG partners with clients, vendors, and other service providers to achieve specific goals, and assumes both the risks and the rewards of working together.

- This willingness to share the risks along with the gains sets BSG apart from traditional systems integrators, who typically limit their involvement to assigned tasks under contract.

- BSG's multiyear, multimillion-dollar contract with Phoenix Newspapers, Inc. (PNI) to provide complete technology transfer services typifies the extensive, long-term partnerships BSG forms with its clients.

Financials

BSG is currently privately held and has experienced strong growth from its beginning.

BSG's 1995 revenue reached $69.7 million, up from $43 million in 1994, $26.5 million in 1993, and $12 million in 1992. The company is profitable.

Market Financials

One hundred percent of revenue is derived from the commercial market.

BSG's targeted vertical markets include the following:

- Energy and petrochemicals
- Entertainment
- Pharmaceuticals
- Multi-unit retail
- Transportation and distribution
- Manufacturing
- Insurance and financial services
- Communications

Geographic Markets

Approximately 95% of BSG's 1995 revenue was derived from the U.S. and 5% from international sources.

Acquisitions

In January 1996, BSG acquired Exact Systems, Inc. of Minneapolis (MN). Terms of the acquisition were not disclosed.

- Exact Systems is a systems integration company that specializes in customer service, support, and management systems.

- The acquisition strengthens BSG's expertise in implementing and customizing customer-focused business processes and systems for customers in industries such as energy, financial services, manufacturing, pharmaceuticals, and telecommunications.

- BSG also gains a suite of tools for customer service systems developed by Exact through a partnership with Vantive Corporation, a provider of customer service, support and management software.

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- Exact's staff forms the core of BSG's new office in metropolitan Minneapolis.

Employees

BSG's total staff consists of 600 employees, segmented as follows:

Consulting	68%
Marketing and sales	5%
Training and education	2%
General and administrative	15%
Other (technology/R&D)	10%
	100%

Key Services

BSG offers the following services:

Business Transformation Services

- Business Process Reengineering
- Downsizing Information Systems
- Document Imaging and Management
- Network Assessment
- Systems Maintenance
- Distributed Systems and Applications
- Client/Server Systems Planning and Development
- Packaged Software Solutions
- Change Management and Knowledge Transfer
- Project Management
- Technical Architecture Development
- Disaster Recovery Planning and LAN Audit

Technologies Used

- Object-Oriented Design and Development
- Workflow and Document Management
- Data Warehousing
- Wireless Communications
- Windows-based Front-end Development Tools
- High-Performance Networks
- Distributed Groupware
- Database Server Engines

Key Products

BluePrint™ for PowerBuilder is an object development environment (ODE) for PowerBuilder.

Enterprise Framework for Forté is an ODE for the Forté development tool.

BSG SMARTS is a suite of computer-based tools assisting a BSG customer with evaluating staff skills, setting up a program of learning tailored to their needs, and measuring the results of the program.

BSG books include a series of technical and general computer industry books that BSG has developed, including a book in development for late 1996 release titled *Development of the Corporate Intranet* (with John Wiley & Sons). The series includes best-sellers like *Client/Server Computing* (with Prentice Hall).

Clients

BSG has delivered client/server solutions to customers in energy, manufacturing, financial services, retail, entertainment, pharmaceuticals, telecommunications, transportation, and other major industries.

- The BSG customer is a company that seeks to transform its business, by either fundamentally changing its business processes or entering whole new markets with new products and services.

- Often, when the velocity of change in an industry threatens the very life of the business, the transformation must take place quickly. In almost every case, customers call on BSG to provide services that go beyond technology development, calling upon the people and process change services that BSG offers through High Performance IT.

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BSG's customers range from ARAMARK to Zeneca, including such companies as Ameritech, American General Life, Berlex Labs, Boston Market, Coca Cola, CNBC, Enron, Entergy, Exxon, FoxMeyer, General Electric, Hoffman La-Roche, Kirby Corp., Ruby Tuesday, Phoenix Newspapers, Inc., Shell Oil, Sony, Sprint, and Tenneco.

Contracts

Some specific examples of BSG's work include the following:

- Shell Oil, one of the 20 largest industrial companies in the U.S., replaced manual processes with a document imaging system that handles 800,000 pages per month, reducing response times for document requests from days to seconds, winning the prestigious Shell President's Award for Team Excellence.

- Phoenix Newspapers, Inc., publisher of the *Arizona Republic*, the 16th largest daily newspaper in the U.S., launched a client/server computing initiative that spans every department (including finance, human resources, circulation, advertising, plant operations and billing) and enables PNI to transform itself into a responsive, customer-driven organization poised to take advantage of emerging market opportunities such as digital newspapers and interactive media.

- Ruby Tuesday, Inc. (RTI) was a division of Morrison Restaurants Inc., an over 80-year-old company providing food services through three distinct lines of business: health care, family dining, and casual dining. In mid-1995, Morrison split into three separate companies. RTI, which includes specialty restaurants such as Ruby Tuesday, Tia's Mexican, and Mozzarella's Italian, embarked on an enterprise-wide effort involving management and strategy, store systems, distributed databases, groupware, ongoing technical architecture, deployment and support, with BSG as its technology partner.

Marketing and Sales

BSG markets its products and services through a direct sales force of approximately 15.

BSG's marketing strategy includes:

- Newsletters
- Formal breakfast meetings
- Network meetings with present and prospective clients
- Focused public speaking
- Press and analyst relations
- A strong reputation within the SI market

Alliances

BSG has always worked to forge strong bonds with client/server software and hardware vendors.

- This bond is sometimes informal, based on BSG's knowledge and use of the products, and sometimes formal, through the programs that a vendor has for systems integrators and other consultants.

- Developing these relationships enables BSG to provide its customers with the latest information about a vendor's strategic directions, the strengths and limitations of a vendor's products, access to technical support and sales assistance, depending on the customer's needs, and occasionally special pricing on the vendor's products. This allows BSG to resell a vendor's

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products as components of a comprehensive technology solution, which many customers prefer because of better coordination and more effective team building among the various product providers.

Another advantage of BSG's vendor relationships is the company's use of the vendors' products in BSG lab environments (sometimes referred to as "proof of reality" as opposed to proof of concept) to evaluate the technical challenges BSG customers face in implementing client/server technology.

- BSG has worked in the lab with a number of customers to prototype key components of their application solutions.
- BSG's labs also support BSG's investments in developing enabling technologies such as BluePrint/EF for PowerBuilder.
- Currently, BSG has projects in progress in the lab to develop enabling technology to address distributed Systems Management and Visual Basic application development.
- BSG is also an active participant in a number of beta programs.
- Some of the products that can be found in the BSG technology labs include: operating systems from Hewlett-Packard, Microsoft, Novell, and Sun; workstations and servers from Compaq, Dell, Hewlett-Packard, and Sun; client/server systems management software from BMC, Computer Associates, Hewlett-Packard, and Tivoli; database products from Informix, Microsoft, Oracle, and Sybase; application development tools from Centerline, Digitalk, Easel, Forté, Microsoft, Powersoft, ParcPlace, Symantec, and Trinzic; customer call center software from Vantive; imaging and document management solutions from Wang; groupware, mail, and messaging products from Lotus and Microsoft; and numerous additional products from many other vendors.
- In addition, BSG is actively pursuing research and has relationships with vendors in areas such as wireless data communications, data warehousing, message-based systems, workflow, imaging, and document management.

During 1994, BSG formed a partnership with Tenneco Gas subsidiary Energy TRACS to provide systems integration services on implementations of Energy TRACS' portfolio of national gas transportation systems and software.

Also during 1994, BSG formed a partnership with Philips Communications and Processing, a subsidiary of Netherlands-based Philips Electronics. Through the partnership—Alliance/IT, LLC—the two companies acquired Power Computing Company, a leading provider of outsourcing services.

Competitors

The traditional systems integrators—large organizations like EDS, Computer Sciences Corporation, Andersen Consulting and SHL Systemhouse—have adapted their mainframe-based practices to address the current demand for client/server solutions. BSG, however, has always focused solely on client/server computing as the basis for business transformation.

The best example of a more comparable competitor is Cambridge Technology Partners (CTP). However, there are major differences between CTP and BSG. CTP focuses on short-duration, fixed-fee projects for its customers. BSG focuses on long-term, multiproject relationships with customers. CTP has a fairly narrow scope of services (technology

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oriented) and technology (heavy UNIX orientation). BSG's scope contains these elements as well, but also offers change management and education services and develops applications that are multi-operating system and multiplatform.

INPUT Assessment

BSG's merger with Medaphis will provide BSG with:

- A more stable financial base. Medaphis is a $500 million company with a successful track record of having acquired 38 businesses since 1988.
- A broader customer base, including the target markets of Medaphis, Imonics and Rapid Systems Solutions
- Expanded systems integration and IT skills offered through Medaphis, Imonics and Rapid Systems Solutions
- A strong foothold in the health care services market

BSG brings its strong skills in client/server systems integration and consulting, business process innovation, and knowledge and skills transfer to the merger.

The company's key challenge over the coming year will be to successfully coordinate/integrate the operations of Imonics and Rapid Systems and exploit Medaphis' customer base.

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IT2000

INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

September 1995

BSG Alliance/IT, Inc.

Chairman, President
& CEO: Steven G. Papermaster
11 Greenway Plaza
Suite 900
Houston, TX 77046-1102
Phone: (713) 965-9000
Fax: (713) 993-9249



Leading the change. Together.℠

Status:	Private
Employees:	630 (8/95)
Revenue:	$ 43,000,000*
Fiscal Year End:	12/31/94

** INPUT estimate*

Key Points

- BSG has built a reputation as the next-generation information technology (IT) company using client/server and other emerging technologies to help customers meet their business goals and objectives.
- The company has capitalized on its success in the energy business and expanded its business and technology expertise into other industries, including multi-unit retail, manufacturing, insurance, transportation, telecommunications, pharmaceuticals and consumer products.
- In January 1995, BSG reorganized the company from three related operating companies into a single operating company—BSG Alliance/IT, Inc.—and has recruited new executives for the management team.
- During 1994, BSG formed a partnership with Tenneco Gas subsidiary Energy TRACS to provide systems integration services on implementations of Energy TRACS' portfolio of national gas transportation systems and software.
- Also during 1994, BSG formed a partnership with Philips Communications and

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Processing, a subsidiary of Netherlands-based Philips Electronics. Through the partnership—Alliance/IT, LLC—the two companies acquired Power Computing Company, a leading provider of outsourcing services.

- BSG's revenues grew by more than 50% during 1994 to $43 million.

Company Description

BSG Alliance/IT, Inc. is the next generation IT services company, providing services that include client/server systems integration and management, business process innovation and change management consulting, skills transfer and education. From its beginning BSG has maintained a focus on client/server technology—a clear differentiation from other systems integrators.

Structure and Operations

Effective January 1995, BSG reorganized its three related operating units for education (BSG Education), consulting (BSG Consulting) and long-term systems development (BSG Alliance/IT) into a single operating company, BSG Alliance/IT, Inc.

Along with this organization change, the company has recruited a new, experienced group of executives for the management team.

- Steven G. Papermaster—Chairman, CEO and President—founded BSG in 1987.

- Key BSG executives are summarized in the exhibit.

BSG Key Executives

Name	Title
Steven G. Papermaster	Chairman, CEO and President
Robert E. Pickering, Jr.	EVP, Market Segments, Initiatives and Programs
Norman D. Smith	EVP, Stransformation Delivery Services
David Lundeen	EVP, CFO
Don G.Baker	EVP, Philips Alliance/European Initiative

BSG has offices in Austin, Dallas and Houston (TX); Atlanta (GA); Chicago (Rosemont, IL); Denver (CO); New York (NY); Philadelphia (PA); Phoenix (AZ); San Francisco (CA); and Washington, D.C. (Landover, MD).

- Market Segment Leaders run each office with help from directors in each office. Projects are staffed by Senior Managers for Consulting and Technical Managers.

- The structure includes managers, supervisors, consultants and support staff.

Corporate Culture

BSG believes that only by embracing change can companies successfully compete in the constantly accelerating business environment.

- The willingness to accept change and the ability to take a leadership role in defining and implementing far-reaching change is at the root of BSG's corporate culture.

- BSG's commitment to change includes changing the metaphors we live by in order to reshape the ways we live and work. BSG uses the term "metaphorphosis" to describe this ability to question basic assumptions and conceive new metaphors for action. For

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example, BSG employees hold their "annual meeting" once per quarter as "quarterly annual meetings", to underscore the accelerated pace of today's business world.

- Within the BSG community, people and functions are frequently redeployed to meet changing needs.

Company Strategy

BSG's mission is to partner with its customers for successful transformation of their businesses through technology. Its strategy is to develop long-term relationships with customers (in BSG's words "alliance/IT programs," as opposed to the traditional nomenclature of "systems integration" or "outsourcing contracts") and provide not just client/server technology services, but also change and business process management services.

Stransformation, for "Strategy Transformed into Action," is BSG's unique services approach for teaming with customers to change their business and technology processes.

- More than just another big systems development life cycle methodology, Stransformation addresses changes in all areas affecting a company's IT processes—its *people*, *processes* and *technology*.

- To do this, the BSG/customer team works through several stages of creating, much like the stages in building a house. The stages in Stransformation range from understanding and blueprinting the new business and technology processes, to implementing and sustaining changes in the new processes.

- While each of these stages is important in a Stransformation program, Stransformation is true to the origin of its name by being action-oriented. This is best represented by "quick hit" initiatives with immediate payback, like the rollout of an interdepartmental network and multiple Lotus Notes applications to capture and manage forms. These quick hits may occur through each stage of Stransformation, while more complex applications and process changes are being delivered.

Partnership is central to BSG's strategy. BSG co-manages projects with its customers and shares with them in both risks and rewards. The company pursues partnerships in three ways:

- Through joint development, capitalization and support of specific *product offerings*;

- Through *joint ventures* offering complementary services on a global basis; and

- By *partnering with its customers* to manage each step of the business transformation process from the boardroom to the desktop—a partnership BSG refers to as *Alliance/IT*.

In an example of a *product-based partnership*, BSG and Houston-based Tenneco Gas subsidiary, EnergyTRACS (Transportation Resources and Computer Systems), formed an alliance in March 1994. BSG and EnergyTRACS are working together to deliver a suite of natural gas transportation systems designed to meet the operational challenges of today's natural gas pipeline industry. Additionally, BSG made a financial investment in EnergyTRACS, reinforcing its commitment to the success of the partnership.

The *joint enterprise* between BSG and Philips Communications and Processing Services, a fully-owned subsidiary of Netherlands-based

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Philips Electronics N.V., is an example of a services-based partnership, enabling BSG to deliver total, integrated technology solutions worldwide.

- The two companies' complementary strengths combine to encompass complete systems transformation services, with client/server systems development supplied by BSG, and data center consolidation and management as well as global telecommunications for multi-national corporations provided by Philips C&P.

- This partnership recently resulted in the acquisition of Power Computing Company, the data processing services and scientific consulting subsidiary of McDermott Incorporated. This acquisition positions Philips C&P and BSG to provide transformational outsourcing and client/server development services through their joint company—Alliance/IT, LLC—to McDermott and the other Fortune 1000 companies that are among Power Computing's customers.

Finally, an *alliance/IT partnership* is a guiding principle in all of BSG's relationships with its clients. BSG partners with clients, vendors, and other service providers to achieve specific goals, and assumes both the risks and the rewards of working together.

- This willingness to share the risks along with the gains sets BSG apart from traditional systems integrators who typically limit their involvement to assigned tasks under contract.

- BSG's multi-year, multi-million dollar contract with Phoenix Newspapers, Inc. (PNI) to provide complete technology transfer services typifies the extensive, long-term partnerships BSG forms with its clients.

Financials

BSG is currently privately held and has experienced strong growth from its beginning. BSG's 1994 revenue reached $43 million, up from $26.5 million in 1993 and $12 million in 1992.

BSG is profitable. The company expects to experience growth of greater than 50% for the next three to five years at both top and bottom lines.

Market Financials

One hundred percent of revenue is derived from the commercial market.

BSG's targeted vertical markets include the following:

- Energy and petrochemicals
- Entertainment
- Transportation and distribution
- Pharmaceuticals
- Manufacturing
- Multi-unit retail
- Insurance and financial
- Computers and communications

Geographic Markets

Approximately 95% of BSG's 1994 revenue was derived from the U.S. and 5% from international sources.

Employees

BSG's total staff consists of 630 employees, segmented as follows:

Consulting	68%
Marketing and sales	5%
Training and education	2%
General and administrative	15%
Other (technology/R&D)	10%
	100%

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Key Services

BSG offers the following services:

Business Transformation Services

- Business Process Reengineering
- Downsizing Information Systems
- Document Imaging and Management
- Network Assessment
- Systems Maintenance
- Distributed Systems and Applications
- Client/Server Systems Planning and Development
- Packaged Software Solutions
- Change Management and Knowledge Transfer
- Project Management
- Technical Architecture Development
- Disaster Recovery Planning and LAN Audit

Technologies Used

- Object-Oriented Design and Development
- Workflow and Document Management
- Data Warehousing
- Wireless Communications
- Windows-based Front End Development Tools
- High-Performance Networks
- Distributed Groupware
- Database Server Engines

Key Products

BluePrint/EF is an object development environment (ODE) for PowerBuilder.

Darwin/EF is an ODE for the Forte' development tool.

BSG SMARTS is a suite of computer-based tools assisting a BSG customer with evaluating the skills of their staff, setting up a program of learning tailored to their needs, and measuring the results of the program.

BSG books include a series of technical and general computer industry books that BSG has developed, including in 1995 *Advanced PowerBuilder 4.0* (with John Wiley & Sons). The series includes best sellers like *Client/Server Computing* (with Prentice Hall).

Clients

BSG has delivered client/server solutions to customers in energy, manufacturing, financial services, retail, entertainment, pharmaceuticals, telecommunications, transportation and other major industries.

- The BSG customer is a company that seeks to transform its business, by either fundamentally changing its business processes or literally entering whole new markets with new products and services.

- Often, when the velocity of change in an industry threatens the very life of the business, the transformation must take place quickly. In almost every case, customers call on BSG to provide services that go beyond technology development, calling upon the people and process change services that BSG offers through Transformation.

BSG's customers range from ARAMARK to Zeneca, including such companies as Ameritech, American General Life, Berlex Labs, Boston Market, Coca Cola, CNBC, Enron, Entergy, Exxon, FoxMeyer, General Electric, Hoffman La-Roche, Kirby Corp., Phoenix Newspapers, Inc., Shell Oil, Sony, Sprint and Tenneco.

Contracts

Some specific examples of BSG's work include the following:

- **Shell Oil**, one of the 20 largest industrial companies in the U.S., replaced manual processes with a document imaging system that handles 800,000 pages per month,

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reducing response times for document requests from days to seconds, winning the prestigious Shell President's Award for Team Excellence.

- **Phoenix Newspapers, Inc.**, publisher of the Arizona Republic, the 16th largest daily newspaper in the U.S., launched a client/server computing initiative that spans every department (including finance, human resources, circulation, advertising, plant operations and billing) and enables PNI to transform itself into a responsive, customer-driven organization poised to take advantage of emerging market opportunities such as digital newspapers and interactive media.

- **Transwestern Pipeline**, a subsidiary of the Houston-based Enron Corporation, achieved compliance with new federal regulations and full payback on its $1 million-plus natural gas marketing and transportation systems in less than one year.

Marketing and Sales

BSG markets its products and services through a direct sales force of approximately 15.

BSG's marketing strategy includes:

- Newsletters
- Formal breakfast meetings
- Network meetings with present and prospective clients
- Focused public speaking
- Press and analyst relations
- Strong reputation within the SI market

Alliances

BSG has always worked to forge strong bonds with client/server software and hardware vendors.

- This bond is sometimes informal, based on BSG's knowledge and use of the products, and sometimes formal, through the programs that a vendor has for systems integrators and other consultants.

- Developing these relationships enables BSG to provide its customers with the latest information about a vendor's strategic directions, the strengths and limitations of their products, access to technical support and sales assistance, depending on the customer's needs, and occasionally special pricing on the vendor's products. This allows BSG to resell a vendor's products as components of a comprehensive technology solution, which many customers prefer because of better coordination and more effective team building among the various product providers.

Another advantage of BSG's vendor relationships is the company's use of the vendors' products in BSG lab environments (sometimes referred to as "proof of reality" as opposed to proof of concept) to evaluate the technical challenges BSG customers face in implementing client/server technology.

- BSG has worked in the lab with a number of customers to prototype key components of their application solutions.

- BSG's labs also support BSG's investments in developing enabling technologies such as BluePrint/EF for PowerBuilder.

- Currently, BSG has projects in progress in the lab to develop enabling technology to address distributed Systems Management and Visual Basic application development.

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- BSG is also an active participant in a number of beta programs.

- Some of the products that can be found in the BSG technology labs include: operating systems from Hewlett-Packard, Microsoft, Novell, Sun; workstations and servers from Compaq, Dell, Hewlett-Packard, and Sun; client/server systems management software from BMC, Computer Associates, Hewlett-Packard, and Tivoli; database products from Informix, Microsoft, Oracle, and Sybase, application development tools from Centerline, Digitalk, Easel, Forté, Microsoft, Powersoft, ParcPlace, Symantec, and Trinzic; groupware, mail, and messaging products from Lotus and Microsoft; and numerous additional products from many other vendors.

- In addition, the BSG is actively pursuing research and has relationships with vendors in areas such as wireless data communications, data warehousing, message based systems, workflow, imaging and document management.

Competitors

The traditional systems integrators—large organizations like EDS, Computer Sciences Corporation, Andersen Consulting and SHL Systemhouse—have adapted their mainframe-based practices to address the current demand for client/server solutions. BSG, however, has always focused solely on client/server computing as the basis for business transformation.

The best example of a more comparable competitor is Cambridge Technology Partners (CTP). However, there are major differences between CTP and BSG. CTP focuses on short-duration, fixed-fee projects for its customers. BSG focuses on long-term, multi-project relationships with customers. CTP has a fairly narrow scope of services (technology-oriented) and technology (heavy UNIX orientation). BSG's scope contains these as well, but also offers change management and education services and develops applications that are multi-operating system and multi-platform.

INPUT Assessment

BSG is well-positioned to ride the migration from mainframe computing to client/server architecture. The company is successfully expanding its client base beyond the energy sector.

BSG will continue to focus on client/server systems and other emerging technologies.

BSG needs to develop the consulting side of the business to gain entry into a broader spectrum of accounts. The creation of BSG Alliance/IT is a good first step in broadening its service offerings.

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IT 2000

INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

July 1994

BSG Corporation

Chairman
& CEO: Steven G. Papermaster
11 Greenway Plaza
Suite 900
Houston, TX 77046-1102
Phone: (713) 965-9000
Fax: (713) 993-9249

Leading the change. Together.™

Status:	Private
Employees:	400
Revenue:	$ 26,500,000*
Fiscal Year End:	12/31/93

* INPUT estimate

Key Points

- BSG Corporation has built a reputation as the next-generation systems integrator using client/server and other emerging technologies to help customers meet their business goals and objectives.
- The company has capitalized on its success in the energy business and expanded its business and technology expertise into other industries, including manufacturing, insurance, telecommunications, transportation, pharmaceuticals and consumer products.
- BSG has created a new division—BSG Alliance/IT—to provide business process transformation and systems management services.
- During the first quarter of 1994, BSG formed a partnership with Tenneco Gas subsidiary Energy TRACS to provide systems integration services on implementations of Energy TRACS' portfolio of national gas transportation systems and software.
- Also during the first quarter of 1994, BSG formed a partnership with Phillips Communications and Processing, a subsidiary

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BSG Leading the change. Together.™ is a registered trademark of BSG Corporation

of Netherlands-based Phillips Electronics. Through the partnership (managed by BSG's Alliance/IT unit), the two companies will deliver systems management services for companies migrating from mainframe computing to client/server environments.

- During 1993, the company opened new offices in New York City, Atlanta and Chicago.

- BSG's revenues more than doubled during 1993 to $26.5 million.

Company Description

BSG is a systems integrator that uses client/server and other technologies to help customers meet their business objectives and goals. BSG seeks organizations that recognize the need to change and adapt their technology needs in order to remain competitive. BSG has been an integrator of corporate computing systems for commercial customers since 1987.

BSG's primary goal is to help companies manage the transition from mainframe computing to networked client/server systems.

BSG understands the need for its clients to incorporate PCs, networks and graphical user interfaces to maximize their information needs.

In the 1980s, BSG began working with companies in the oil industry following the collapse of oil prices to help track and measure their processes and products. BSG helped develop client/server solutions to monitor, track and report on the activity of nationwide pipelines and meet regulatory guidelines for gas transportation companies.

Structure and Operations

BSG's core structure consists of three service groups as follows:

- BSG Consulting provides consulting and systems integration services to Fortune 1000 companies.

 - The unit, with approximately 300 employees, balances technical expertise in client/server computing and other emerging technologies with direct knowledge of client's businesses, industries and strategic objectives.

 - Don G. Baker, formerly a managing partner at Andersen Consulting, is president of BSG Consulting.

- BSG Education provides training and educational consulting services in client/server technologies. The unit has trained more than 10,000 students in Novell, Lotus, PowerBuilder and Microsoft vendor-authorized courses.

 - BSG believes that training is the key factor in implementing client/server systems.

 - Classes are available at BSG offices or at the customer site.

 - Steven L. Guengerich is president of BSG Education.

- BSG Alliance/IT was created in 1993 to provide long-term, technology-based alliances that result in business transformation. Robert Pickering, formerly Partner-In-Charge of the outsourcing consulting practice for Price Waterhouse, is president of BSG Alliance/IT.

BSG has offices in Houston, Atlanta, Chicago, Dallas and New York.

- Managing Directors run each office with help from directors in each office. Projects are staffed by Senior Managers for Consulting and Technical Managers.

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- The structure includes managers, supervisors, consultants and support staff.

Company Strategy

The founding premise of the company is the transition from mainframe computing to client/server architecture. Time-compressed decision-making and corporate downsizing have forced businesses to reorganize their mainframe and management information departments.

BSG realizes that companies are faced with global competition and that a high proportion of these companies do not have the flexibility to react to the competition or a rapidly changing market. BSG helps companies migrate to cost-effective, productive client/server-based systems that allow them to operate more efficiently and prepare for future change.

BSG developed and uses the BluePrint Object Development Environment, a client/server technical architecture and toolset. It provides the following advantages:

- Facilitates a company's transition from mainframes to client/server systems
- Creates a reusable architecture that can reduce the customer's time to develop future projects and systems

During each project, BSG becomes part of each client's organization and BSG consultants work as partners with users and information services departments to implement mission-critical systems.

Financials

BSG's 1993 revenue is estimated to have reached $26.5 million, compared to $12 million in 1992.

- Operating margins in the company's systems integration business was 36%.
- BSG is forecasting growth of 50% in 1994.

Market Financials

One hundred percent of revenue is derived from the commercial market.

- BSG has expanded its technical expertise into the various vertical markets, including manufacturing, insurance, transportation, pharmaceuticals, consumer products, health care, biotechnology, telecommunications, distribution, financial, energy and petrochemicals.
- The company has no federal business.

One hundred percent of revenue is derived from professional services and from work as a prime SI contractor.

- BSG's revenues are split between a time-and-material basis and a fixed period.
- The average value of a single project contract is $500,000, with distributed systems representing 100% of SI projects.
- BSG continues to experience a great demand for customized software application development.

Geographic Markets

Approximately 95% of BSG's 1993 revenue was derived from the U.S. and 5% from Europe.

Employees

BSG's total staff consists of 400 employees. The following table lists key staff capabilities:

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Business Management Consulting	50%
Business Process Reengineering	20%
Organization Change Management	20%
General Management	20%
Project Management	20%
Applications Design/Development	20%
Network Design and Development	20%
Applications Maintenance	20%
Computer Systems	20%
Network Operations	20%
Training/Education	20%
Sales	20%
Hardware/Software Evaluation/Acquisition	20%
LAN Installation	100%
LAN Administration	100%
Client/Server	100%
Open Systems	20%

Key Products and Services

BSG offers the following consulting and systems integration services:

- Downsizing Information Systems
- Business Process Reengineering
- Distributed Systems and Applications
- Client/Server Systems Planning and Development
- Systems Maintenance and Network Management
 - Disaster Recovery Planning
 - Network Assessment

BSG offers technology assistance in the following areas:

- Object-Oriented Design and Development
- Workflow and Document Imaging
- Network Management and Support Software
- Windows-Based Front-End Development Tools
- High-Performance Networks
- Distributed Groupware
- Database Server Engines

BSG has published the following books and technical newsletters:

- *Downsizing Information Systems*
- *Client/Server Computing*
- *Enterprise-Wide Networking*
- *NetWare Supervisor's Guide*
- *NetWare Programmer's Guide*

Many of these books have been translated into German and Japanese-Kanji. BSG is finalizing a new book on advanced application development using Powersoft's PowerBuilder software.

BSG representatives continue to author articles and speak at national trade shows and association meetings on migration to client/server-based systems.

Clients

BSG Clients include AI Credit Corp, Berlex Laboratories, Enron Gas Liquids, Exxon, Fox Meyer Distribution, GE Capital Corp., Kirby Corp., Phoenix Newspapers, SONY, Transwestern Pipeline, Tenneco Gas and Union Pacific Railroad.

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Marketing and Sales

BSG's marketing strategy includes:

- Newsletters
- Formal breakfast meetings
- Network meetings with present and prospective clients
- Focused public speaking
- Strong reputation within the SI market

Alliances

BSG is independent of vendor partnerships, however does have close relationships with Powersoft, Novell, Microsoft, Lotus, Hewlett-Packard, Sun, Oracle, Sybase and Trinzic.

Competitors

Competitors in the systems integration market include SHL Systemhouse, Andersen Consulting, Ernst & Young and Cambridge Technologies.

INPUT Assessment

BSG is well-positioned to ride the migration from mainframe computing to client/server architecture. Revenues have exploded from $7 million in 1991 to a projected $40 million in 1994.

BSG will continue to focus on client/server systems and other emerging technologies.

BSG needs to expand beyond the energy sector and work with companies such as AI Credit and Berlex Laboratories indicates such a move taking place.

BSG needs to develop the consulting side of the business to gain entry into a broader spectrum of accounts. The creation of BSG Alliance/IT is a good first step in broadening its service offerings.

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BT NORTH AMERICA INC.
2560 North First Street
San Jose, CA 95131
(408) 922-0250

Mark Baker, President and CEO
Wholly Owned Unit of British Telecom
Total Employees: 3,000
Total Revenue, Fiscal Year End
12/31/90: $675,000,000*

*Pro forma estimate

The Company

BT North America was formed on March 31, 1991 with the merger of BT Tymnet Inc. and British Telecom Inc., the two U.S. subsidiaries of British Telecommunications plc.

BT North America currently operates as an international value-added network and information services provider and is one of the world's largest suppliers of shared, dedicated, and hybrid network solutions. The company owns and operates the world's largest value-added data network - the TYMNET Global Network - which offers protocol conversion, LAN interconnectivity, error-protection, and enhanced security features.

- Network application services include electronic messaging, electronic transaction (card) services, and electronic data interchange (EDI).

- Additionally, the company currently offers international voice, integrated trading and data communications equipment, optoelectronics products, and voice messaging products and services. These products and services were previously offered through British Telecom Inc.

BT North America's parent, British Telecom, operates one of the largest communications networks in the world, has annual revenue of over $20 billion, employs about 240,000 staff and has over 100 offices in 30 countries.

- BT North America President and CEO Mark Baker was previously the marketing director of British Telecom International. He now reports to David Dey, a corporate Director of the British Telecom Group and Managing Director of British Telecom's Business Communications Division.

The TYMNET data network originated in 1969 to deliver remote computing services to a widely dispersed population of Tymshare Inc. clients. In 1977, the company - then called Tymnet, Inc. (a

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Tymshare subsidiary) - became an FCC-regulated specialized common carrier, and two years later, installed its first private network. Tymnet was acquired by McDonnell Douglas in 1984 and was subsequently renamed McDonnell Douglas Network Systems Company (MDNSC).

- Effective November 20, 1989, British Telecom purchased MDNSC and certain other McDonnell Douglas network services for $355 million in cash. The purchase included Tymnet's 25% interest in Network Information Service, Ltd. (NIS), a valued-added service provider in Japan.

- Subsequent to these acquisitions, British Telecom formed BT Tymnet, Inc. as a wholly owned subsidiary, combining the operations of MDNSC, BT Dialcom, and the other operating divisions acquired from McDonnell Douglas - Network Applications Systems, Applied Communications, and Payment Systems Company.

- BT North America's current operations support all of the TYMNET network products and services for shared, hybrid, and dedicated customer applications, Dialcom and OnTyme electronic messaging, EDI*Net^{R} electronic data interchange services, and Payment Systems' card authorization, point of sale, and electronic draft capture services.

In September 1990, British Telecom launched its Global Network Services (GNS), a portfolio of managed global network services providing users with worldwide network access to over 90% of the world's business centers and over 101 countries.

- GNS is a further phase of British Telecom's corporate strategy to provide the multinational business community with communications on a global scale, together with management services, through a single customer interface.

- GNS integrated the TYMNET network; the PSS network (British Telecom's X.25 packet network in the U.K.); and IPSS (British Telecom's International Packet Switching Service).

INPUT estimates that BT North America's total 1990 pro forma revenue reached nearly $675 million, which includes approximately $325 million from BT Tymnet operations, $100 million from British Telecom Inc., and about $250 million from PSS and IPSS operations.

BT North America currently has approximately 3,000 employees, of which 1,800 are in the U.S. and 1,200 at international locations.

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Competitors include the following:

- Value-added network providers: Sprint International, CompuServe, INFONET, GE Information Services, and IBM Information Network
- Packet-switch equipment vendors (private networks): Bolt Beranek and Newman, Sprint International, and Northern Telecom
- EDI services providers: GE Information Services, ORDERNET (Sterling Software), and IBM Information Network
- Card services: National Data Corporation, MasterCard, and VISA
- Electronic messaging: Sprint International, AT&T, GE Information Services, and INFONET

Key Products and Services

INPUT estimates BT Tymnet's 1990 revenue of $325 million (prior to the formation of BT North America) was derived approximately as follows:

Network Services	
Value-added network	59%
Electronic mail	9%
EDI	2%
	70%
Transaction Processing	15%
Private Networks	15%
	100%

Of the remaining $350 million in BT North America revenue, approximately 29% ($100 million) was derived from network services provided by PSS and IPSS. The remainder was derived from international voice and voice messaging services and various financial trading and data communications equipment.

Value-Added Network Services:

The TYMNET[R] Global Network is BT North America's value-added public packet data communications network that consists of intelligent communications processors connected by a network of

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leased telephone lines, microwave links, and satellite channels to provide interconnection between remote terminals, microcomputers, and host computers worldwide. TYMNET provides value-added services such as error protection, protocol conversion, enhanced data security, EDI, electronic financial transaction services, and electronic messaging.

- The number of companies supported on the network has grown from 30 in 1972 to over 3,000 today.

- More than 16,500 simultaneous users in more than 22 countries can directly access TYMNET daily, sending up to 26 billion characters via 4,500 communications processors worldwide.

- The network supports various protocols, including asynchronous, X.25, X.75, 3270 bisync, 3270 SDLC, RJE HASP, Burroughs Polled-Select, and UTS. For interfacing personal computers to networks, the X.PC and MNP asychronous error-protection protocols are used.

- The Outdial™ service allows mainframes, minicomputers, and microcomputers and terminals connected to the network to dial out to attended or unattended terminals from the nearest TYMNET Outdial port, saving users 30% off comparable WATS charges. Outdial is now available in 125 cities nationwide.

- Most major public data bases and information services are accessible on the network, including TRW Information Services, Delphi, Dow Jones & Company, and the National Computer Network of Chicago.

The international networking capabilities of Global Network Services (GNS) incorporate the following services:

- GNS End-to-End services are managed network services provided over TYMNET where British Telecom owns and operates the actual nodes within each country and supports and services customers locally. These services are currently available in over 22 countries. PSS, British Telecom's U.S. managed data network, is currently accessed by more than 100,000 users who place over one million calls daily. More than 200 data switches housed in exchanges throughout the U.K. link into Network Management Centres in London and Manchester.

- Enhanced services are network services offered by local Telecommunications Administrations (TAs) equipped with BT North America technology but owned and operated by the TA.

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These networks can technically provide the full range of GNS End-to-End services, but customer offerings, support, and pricing (all of which are controlled by the TA) are sometimes limited. Enhanced services are available in over 30 countries.

- Basic Global Connectivity services allow overseas networks in many countries to connect to the TYMNET network via X.75 gateways. These gateways are either owned or managed by BT North America or provided via IPSS, British Telecom's International Packet Switching Service.

Recent network services announcements include the following:

- In January 1991, British Telecom announced plans for providing global, broadband data networking. The initial phases of the high-speed network will incorporate frame relay software interfaces into TYMNET. First customer services will be available in the second quarter of 1991 and offered initially in the U.S., followed by Europe and the Pacific Rim.

- In December 1990, BT North America introduced the MultiPoint SDLC service, a new flat-rate, bundled, port-based synchronous data link control service.

- In October 1990, the company announced the availability of XLINK Express™, a family of new bundled, port-based, synchronous X.25 services (XLINKs) which offers customers significantly lower cost X.25 host access to the TYMNET network.

- In September 1990, BT North America was selected by Prodigy Services Company to provide nationwide access to the PRODIGY service. BT North America has upgraded over 200 TYMNET sites to support 2400bps, and the addition of 10 new sites specifically for this customer.

- In September 1990, BT North America and Infolink Group Limited, which owns and operates Infolink, Australia's largest value-added data network, announced an interconnection agreement linking TYMNET and Infolink.

Applications:

The principal EDI service, EDI*Net®, is a third-party, value-added communications service for computer-to-computer exchange of such business documents as purchase orders, invoices, and bills of lading.

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- EDI*Net supports all public exchange standards (including ANSI X.12 and EDIFACT), various industry-specific standards, and offers asynchronous, bisynchronous, and leased-line access.

- EDI*Net clients are predominantly in the transportation, grocery, electronics, telecommunications, aerospace, oil, and warehousing industries. There are currently over 1,000 EDI*Net clients.

BT North America's Dialcom electronic mail service allows users to create, read, distribute, and file messages electronically and instantly 24 hours a day worldwide. Dialcom products/services include:

- XMAIL, which allows users to send both domestic and international messages directly from electronic mailboxes to fax machines

- UpFront, a PC communications software product with word processing, messaging, and file management capabilities

- NEWSTAB, an electronic newswire clipping service

- FORMS, for custom electronic forms design

- EPUB, an electronic publishing service

- Dialcom 3780 service, a batch mail service

Card services provided by BT North America include credit card authorization, electronic draft capture, and related services at electronic point-of-sale terminals across the U.S. These services generated an estimated $40 million in 1990.

- Authorization services are provided for all major credit cards, including VISA, MasterCard, American Express, Discover, Diners Club, Carte Blanche, and private label card programs.

- A related service, electronic draft capture, electronically captures credit card transactions for later transmission to the merchant's bank and enables the bank to process card sales electronically, rather than with paper drafts.

- Card processing services are supported from data centers in Irvine and Fremont (CA) and Rockville (MD).

- Card services are currently provided to over 500 banks.

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Private and Hybrid Data Networks:

BT North America also privates private and hybrid data networks and associated support services. These services contributed an estimated $50 million to 1990 revenue.

Private network customers may chose from various hardware and service options, including a range of packet switches (called Tymnet Engines), and network management provided by BT North America or their own staff.

- In August 1989, the company announced it had been awarded a contract to build a private packet-switched network for the Coors Brewing Company in Golden (CO) to streamline communications within the Coors campus in Golden by linking dissimilar computers and local-area networks. Future plans call for connecting the campus network to regional and division sales offices across the country as well as other Coors companies.

- The company has supplied 50 private networks with a total of over 4,500 nodes worldwide to clients in banking, petrochemicals, data base services, publishing, electronics, postal telephone and telegraph (PTTs), and Regional Bell Operating Companies (RBOCs).

Hybrid networks combine shared and dedicated equipment.

- In May 1990, BT North America announced it was awarded a three-year, $15 million contract to support Motorola's CoveragePLUS long-haul vehicle communications system through the TYMNET network.

- In August 1989, the company announced a $2 million hybrid agreement with Ford Motor Company that is in addition to an existing contract for $8.5 million in TYMNET VAN services. Ford purchased various TYMNET packet switches, software, network management services, facilities management, and hardware and software maintenance.

In May 1989, the company introduced Small-Scale Distributed Networks (SDNs), a hybrid, private network built on either standard X.25 links or connections to public data networks.

Network software available from BT North America includes the following:

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- Concert™, British Telecom's Network Management Platform introduced during 1990, is a network management capability built on internationally agreed open system (OSI) standards. It implements Release 1 of the Network Management Forum specifications announced in June 1990. The Concert Integrated Management System (IMS) is built on an open computer platform using a Posix-conformant operating system. It uses the ORACLE data base to store management information and X.11 windows interface to give high definition graphical user interface.

- Concert Data Manager (formerly netFUSION), introduced in January 1989, is a UNIX-based network management system for BT North America networks built around a Sun Microsystem server and access workstations. The product supports the life cycle of the network, from planning and requirements, through installation, daily operation, and expansion, and accommodates the integration of many vendors' equipment, as well as the integration of other network management systems, such as Netview. Pricing for the software is between 10% and 20% of the overall network costs.

- TymView, introduced in 1988, is a software interface that allows BT North America network equipment to be managed by Netview.

Other:

BT North America also markets several communications processors ("engines" or "nodes"), including the PXL, Compact XL, Dual Compact, and the Turbo family of processors. BT North America also offers the following products and services previously provided by British Telecom Inc.:

- Voice products, including fully integrated voice and data switches, voice messaging, and call management products

- Financial trading systems (equipment), including the pV range of trading turrets, the dsx digital voice switch, and the iD200 information switch

- Data communications equipment, including a range of modems, multiplexers, and X.25 products

- Videoconferencing systems

- International voice, voice messaging, and mobile communications services

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Industry Markets

BT North America's revenue is derived from clients across industries. BT North America's public, private, and hybrid networks are used by information services firms, manufacturers, oil companies, banks, security firms, consulting firms, libraries, publishing firms, research organizations, government agencies, and hospitals, as well as other common carriers.

- Most of the RBOCs use TYMNET to provide access to AT&T host computers, which provide applications programs and data base information needed by the RBOCs.
- More than one-third of the Fortune 100 industrial companies are BT North America customers.

Geographic Markets

Approximately 63% of BT North America's $675 million 1990 revenue was derived from the U.S. and 37% from international sources.

- Approximately 90% of BT Tymnet's 1990 revenue (prior to the merger into BT North America) was derived from the U.S. and 10% from international sources.

BT North America staff operates in more than 50 locations worldwide. The majority of its employees are in San Jose (CA).

- Network management centers are located in San Jose and Vienna (VA) in the U.S. and in Luton, London, and Manchester in the U.K.

Users have local access to TYMNET from more than 850 cities in the U.S. and more than 100 foreign countries.

- BT North America owns and operates network access in the U.S., Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Italy, Japan (through Network Information Service Company), Luxenbourg, Mexico, the Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, and the U.K.
- The company has access to some 80 other countries through networks operated by the local Telecommunications Administrations. These include South America, the Caribbean, Saudi Arabia, Malaysia, and access via international packet working with the other countries on the international packet switching networks.

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BT TYMNET, INC.
2560 North First Street
San Jose, CA 95131
(408) 922-0250

Mark Baker, President & CEO
Wholly Owned Subsidiary of British Telecom
Total Employees: 1,500
Total Revenue, Fiscal Year End 12/31/89: $300,000,000*

*INPUT estimate

The Company

BT Tymnet Inc. is an international value-added network provider and one of the world's largest suppliers of shared, dedicated, and hybrid network solutions. The company operates the TYMNET[R] public packet data communications network, which offers protocol conversion, error protection, enhanced security features, electronic messaging, card services, and electronic data interchange (EDI).

- The TYMNET data network originated in 1969 to deliver remote computing services to a widely dispersed population of Tymshare clients. In 1977, the company - then called Tymnet, Inc. - became an FCC-regulated specialized common carrier, and two years later, installed its first private network. Tymnet was acquired by McDonnell Douglas in 1984 and was subsequently renamed McDonnell Douglas Network Systems Company (MDNSC).

- Effective November 20, 1989, British Telecom plc purchased MDNSC and certain other McDonnell Douglas network services for $355 million in cash. The purchase included Tymnet's interest in Network Information Service, Ltd. (NIS), a valued-added service provider in Japan. The acquired operations now operate as BT Tymnet, a wholly owned subsidiary of British Telecom.

 - British Telecom operates one of the largest communications networks in the world, has annual revenue of almost $19 billion, employs about 247,000 staff and has over 100 offices in 30 countries.

 - BT Tymnet President and CEO, Mark Baker, was previously marketing director of British Telecom International. He now reports to Anthony Booth, a corporate Director of the British Telecom Group and Managing Director of British Telecom International.

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BT Tymnet's operations support all of the TYMNET network products and services for shared, hybrid, and dedicated customer applications, including Dialcom (acquired by British Telecom during 1986) electronic mail services, Payment Systems card authorization services, and EDI*Net[R]. Overseas, the operations of BT Tymnet and British Telecom will be integrated to maximize regional strategies, with BT Tymnet policy, products, being directed from the U.S.

INPUT estimates that BT Tymnet's 1989 proforma revenue reached nearly $300 million, including about $30 million in revenue from Dialcom.

BT Tymnet currently has approximately 1,500 employees, of which 95% are in the U.S.

Competitors include the following:

- Value-added network providers: Telenet, CompuServe, INFONET, GE Information Services, and IBM Information Network.
- Packet-switch equipment vendors (private networks): Bolt Beranek and Newman, Telenet, and Northern Telecom.
- EDI services providers: GE Information Services.
- Card services: National Data Corporation, MasterCard, and VISA.
- Electronic messaging: Telenet, Western Union, and MCI.

Key Products and Services

INPUT estimates BT Tymnet's 1989 revenue was derived approximately as follows:

Network Services

Value-added network	55%
Electronic mail	14%
EDI	2%
	71%
Transaction Processing	13%
Private Networks	16%
	100%

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TYMNET[R] is BT Tymnet's public packet data communications network that consists of intelligent communications processors connected by a network of leased telephone lines, microwave links, and satellite channels to provide interconnection between remote terminals, microcomputers, and host computers worldwide. TYMNET provides value-added services such as error protection, protocol conversion, and data security.

- The number of companies supported on the network has grown from 30 in 1972 to over 2,500 today.

- Local dial-up access is available from over 800 U.S. locations and from over 80 countries. The network serves over 23,050 local exchanges via 3,243 communications processors and supports over 10,000 simultaneous users during peak hours. There are currently over 13,600 local access ports.

- The network supports various prototcols, including asynchronous, X.25, X.75, 3270 bisync, 3270 SDLC, RJE HASP, Burroughs Poled-Select, and UTS. For interfacing personal computers to networks, the X.PC and MNP asychronous error-protection prototcols are used.

- The Outdial[TM] service allows mainframes, minicomputers, and microcomputers and terminals connected to the network to dial out to attended or unattended terminals from the nearest TYMNET Outdial port, saving users 30% of comparable WATS charges. Outdial is now available in 125 cities nationwide.

- Most major public data bases and information services are accessible on the network, including TRW Information Services, Delphi, Dow Jones & Company, and the National Computer Network of Chicago.

- Recent announcements include the following:

 - In October 1989, the company announced that it would expand its 9600 bps service, TymDial 9.6, to 51 new access locations. The total of 69 local high-speed access locations will also be supported on inbound WATS services.

 - Also in October 1989, the company announced that its would expand its X.25 dial-up service, TymDial X.25, to 36 additional access locations. All of the synchronous locations will also be supported by an inbound WATS service. The X.25 service supports 2400 bps and 9600 bps using the CCITT X.32 Dial-In recommendations.

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The principal EDI service, EDI*Net[R], is a third-party, value-added communications service for computer-to-computer exchange of such business documents as purchase orders, invoices, and bills of lading.

- EDI*Net supports all public exchange standards and offers asynchronous, bisynchronous, and leased-line access.

- EDI*Net clients are predominantly in the transportation, grocery, electronics, telecommunications, aerospace, oil, and warehousing industries. There are currently over 1,000 EDI*Net clients.

Card services provided by BT Tymnet include credit card authorization and related services at electronic point-of-sale terminals across the U.S. These services generated an estimated $40 million in 1989 revenue.

- Authorization services are provided for all major credit cards, including VISA, MasterCard, American Express, Discover, Diners Club, Carte Blanche, and private label card programs.

- A related service, electronic draft capture, electronically captures credit card transactions for later transmission to the merchant's bank and enables the bank to process card sales electronically, rather than with paper drafts.

- Card processing services are supported from data centers in Irvine and Fremont (CA) and Rockville (MD).

- Card services are currently provided to over 500 banks.

BT Tymnet also privates private and hybrid data networks and associated support services. These services contributed an estimated 16% to 1989 revenue.

- Private network customers may chose from various hardware and service options, including a range of packet switches (called Tymnet Engines), and network management provided by BT Tymnet or their own staff.

 - In August 1989, the company announced it had been awarded a contract to build a private packet-switched network for the Coors Brewing Company in Golden (CO) to streamline communications within the Coors campus in Golden by linking dissimilar computers and local-area networks. Future plans call for connecting the campus

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network to regional and division sales offices across the country as well as other Coors companies.

- The company has supplied 42 private networks with a total of over 3,000 nodes worldwide to clients in banking, petrochemical, data base services, publishing, electronics, postal telephone and telegraph (PTTs), and Regional Bell Operating Companies (RBOCs).

- Hybrid networks combine both shared and dedicated equipment.

 - In August 1989, the company announced a $2 million hybrid agreement with Ford Motor Company that is in addition to an existing ocntract for $8.5 million in TYMNET VAN services. Ford purchased various TYMNET packet-switches, software, network management services, facilities management, and hardware and software maintenance.

- In May 1989, the company introduced Small-Scale Distributed Networks (SDNs), a hybrid, private network built on either standard X.25 links or connections to public data networks.

- Network software available from BT Tymnet includes the following:

 - netFUSION, introduced in January 1989, is a UNIX-based network management system for BT Tymnet networks built around a Sun Microsystem server and access workstations. The product supports the life cycle of the network, from planning and requirements, through installation, daily operation, and expansion, and accommodates the integration of many vendors' equipment, as well as the integration of other network management systems, such as Netview. Pricing for the software is between 10% and 20% of the overall network costs.

 - TymView, introduced in 1988, is a software interface that allows BT Tymnet network equipment to be managed by Netview.

Industry Markets

BT Tymnet's revenue is derived from clients across industries. BT Tymnet's public, private, and hybrid networks are used by information services firms, manufacturers, oil companies, banks, security firms, consulting firms, libraries, publsihing firms, research organizations, government agencies, and hospitals, as well as other common carriers.

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- Most of the RBOCs use TYMNET to provide access to AT&T host computers, which provide applications programs and data base information needed by the RBOCs.

- More than one-third of the Fortune 100 industrial companies are BT Tymnet customers.

Geographic Markets

Approximately 90% of BT Tymnet's 1989 revenue was derived from the U.S. and 10% from international sources.

BT Tymnet staff operates in more than 50 locations worldwide. The majority of its employees are in San Jose (CA).

Users have local access to TYMNET from more than 850 cities in the U.S. and more than 80 foreign countries.

- BT Tymnet owns and operates network access in the U.S., Italy, Spain, the Netherlands, Belgium, Hong Kong, Sweden, Australia, Japan, the U.K., Canada, West Germany, and France. During 1987, the company's Japanese affiliate, NIS, implemented with TYMNET a direct connection to the Japanese VAN.

- The company has access to some 80 other countries through network switches operated by the local telecommunications administrations (PTTs). These include South America, Caribbean, Saudi Arabia, Malaysia, and access via international packet working with the other countries on the international packet switching networks.

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program

June 1998

Bull

Chairman & CEO: **Guy de Panafieu**
68 Route de Versailles
78434 Louveciennes
CEDEX France
Phone: **+ 33 (0) 1 39 66 60 60**
Fax: **+ 33 (0) 1 39 66 60 62**
Internet: **www.bull.com**

Status:	Public
Employees:	21,267
Revenue 1997:	$4,217,000,000
Fiscal Year End:	December

Key Points

- Bull is an international I.T. group based in Europe with 21,000 people and operations in more than 85 countries.
- In 1997, Bull earned revenues of $4217 billion including over 65% outside of France, its country of origin.
- Bull offers a wide range of systems, infrastructure software and I.T. services.
- Bull is a leading developer of smart cards and smart card terminals.
- In distributed management software platforms, Bull is ranked third worldwide.

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- In I.T. services, Bull is ranked in Europe as the third largest systems integrator and fifth in maintenance and support services.

Company Description

Group Bull began in 1919, when Frederick Rosing Bull, an engineer at a Norwegian insurance company, invented a counting and sorting machine to automate the processing of the company's actuarial data. In 1931, HW Egli Bull was incorporated in Paris to sell Bull tabulators, and changed its name to Compagnie des Machines Bull in 1933.

In 1983, the French state acquired a majority interest, and in the following year, NEC, Bull and Honeywell signed a long-term cross-licensing agreement for very large mainframes. In 1987, Honeywell Bull Inc was jointly created by Bull (42.5%), Honeywell (42.5%) and NEC (15%), and in 1988, Honeywell Bull was consolidated into Groupe Bull, which increased its share to 65.1%, leaving Honeywell Inc with 19.9% and NEC with 15%.

In 1989, Honeywell Bull changed its name to Bull HN Information Systems (the H is for Honeywell, the N for NEC). Later that year, Groupe Bull purchased Zenith Data Systems, a US-based PC manufacturer. By April 1991, Honeywell had sold all its share in Bull HN to Compagnie des Machines Bull, the parent company. The company is now known as Bull.

The privatization process was officially started in March 1994 and completed in February 1997. Bull is still partly owned by the French state (17.4%). The majority is held by industrial shareholder partners Motorola (17.4%), NEC (17.4%), France Telecom (17.4%), and Dai Nippon Printing (5.5%). Internal employee shareholding (7%) and financial investors (18%) complete the equity capital structure.

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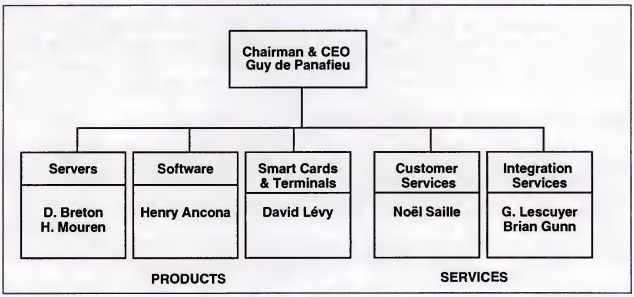
Organization and Structure

Key Executives

Chairman & CEO	Guy de Panafieu
Chief Operating Officer	Alain Couder
Group Marketing	Jacques Reboul/Richard Snook
Group Purchasing	Robert Aydabirian
Strategy, Technology and Partnerships	Géraldine Capdeboscq
Group Research and Development	Gérard Roucairol
Human Resources	Jean Michel Debono (acting)
Finance/Control	Gervais Pellissier/Yves Blanc
Communication	Simon Gillham
MIS/Organization	Jean Michel Debono
Sales: Europe	George McNeil/Alain Zeitoun
Sales: North & South America	Don Zereski
Sales: Asia, Africa, Eastern Europe	Jean Bréchon

Source: Bull

Bull Divisional Structure



Source: Bull

In February 1998, Bull announced a new strategic organization, in line with the Bull 2002 Strategy that the company is developing over the coming years. The new organization retains the matrix structure of business focused divisions together with customer focused geographical networks.

Five significant changes were made:

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- a pan-European sales network that includes France
- the creation of a Software division
- Reinforcement and consolidation in the Integration Services Division, which now includes networking and Internet services
- a focused Server division was created
- the reinforcement of Group Marketing and R&D functions

Three product and two service divisions are in charge of Bull businesses worldwide: Servers; Software; Smart Cards & Terminals, and Integration Services (Systems Integration, Networking & Internet Services, Outsourcing) and Customer Services.

Given the pan-European scope of many Bull customers, the French sales network has been combined with the sales networks of the other European countries, in the Bull Europe network. The three geographic networks are now: Bull Europe; Bull North & South America; and Bull Asia, Africa, Eastern Europe.

Each geographical network has dedicated teams for each division. Both at the worldwide and the national level, the divisions are profit and loss centers for their own particular business activity.

Company Strategy

In response to the changing dynamics of the IT market, Bull undertook a major strategic review in the second half of 1997, for the period 1998-2002. The company realized that it needed to tighten its market focus and to accelerate development of high growth businesses in areas such as the Internet security, high end systems and systems integration.

The «Bull 2002» ambition is straightforward:

- be in the top 3 worldwide for its new products: software (management, security, e-commerce, internet) and smart cards and associated terminals.
- achieve a strong position within focused service activities in Europe
- remain an acknowledged player with first tier partners in the enterprise server market.

To achieve this ambition, Bull has made 3 fundamental strategic choices:

- break with the generalist business model and become a multi-specialist (i.e. specialist in selected domains of excellence)
- develop selected product and services businesses (split approximately 50-50)

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- evolve the business portfolio progressively towards new high growth, high margin businesses while focusing the core business of servers and related services

In line with these choices , Bull's business portfolio can be represented in the following matrix:

	Growth	Core
Products	Smart cards & terminals Software: management and security	Servers: -GCOS -Open high end (Unix, NT) Contract manufacturing Printers
Services	Systems integration Network/internet services Selected operational services Help desk services	System services

Source: Bull

Financials

In 1997, Bull earned revenues of $4.2B, an increase of 5% from 1996, of which the greatest increase was in services (7.2%).

The company has reported profits since 1995, putting an end to several years of losses. To return to profitability, Bull has reduced staff levels to 21,267 at 1997 year-end, reduced from 44,700 at year-end in 1990. It has also reduced its manufacturing sites from 13 to 5 worldwide.

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Bull

Five-Year Financial Summary
($ Millions, except per share data)

	Fiscal Year				
Item	1997	1996	1995	1994	1993
Revenue	4,216.5	4,016.6	4,566.3	5,124.6	4,839.4
• Percent change from previous year	5.0%	(A) (8.8%)	(8.9%)	7.7%	(6.8%)
Income (loss) from operations:	127.3	133.6	145.4	40.8	(324.1)
• Percent change from previous year	5.0%	(8.8%)	356%	n/a	n/a
Net income (loss)	103.3	64.4	52.4	(113.1)	(585.5)
• Percent change from previous year	60.4%	22.9%	n/a	n/a	n/a

(A) Reflects the sale of Zenith Data Systems Corp. to Packard Bell NEC in April 1996

Source: Bull

Revenue Analysis by Product/Service

Bull - Two-Year Source of Revenue Summary
($ Millions)

	Fiscal Year	
	1997	1996
Product/Service	Revenue $	Revenue $
Servers	2,098.5	2,141.1
Software	62.2	49.7
Smart Cards and Terminals	242.3	183.6
Customer Services	870.2	842.1
Systems Integration	1,307.5	1,190.1
Products sold through services	(364.5)	(390.1)
Total	4,216.5	4,016.6

Source: Bull

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Geographic Markets

Bull
Three-Year Geographic Source of Revenue Summary
($ Millions)

	Fiscal Year					
	1997		1996		1995	
Geographic Market	Revenue $	Percent of Total	Revenue $	Percent of Total	Revenue $	Percent of Total
Europe (excluding France)	1,981.7	47%	1,767.3	44%	1,689.5	37%
France	1,475.8	35%	1,325.5	33%	1,415.5	31%
North and South America	506.0	12%	321.3	8%	821.9	18%
Africa, Asia and Eastern Europe	253.0	6%	160.7	4%	137.0	3%
Direct Sales from divisions and Bull Electronics			441.8	11%	502.3	11%
Total	4,216.5	100%	4,016.5	100%	4,566.3	100%

Source: Bull

Employees by Division

Servers	30%
Software	2%
Smart Cards and Terminals	2%
Customer Service	24%
Integration Services	33%
Sales network not assigned to divisions	6%
Manufacturing and Group functions	3%
Total	100%

The company currently has 21,267 employees.

Key Products and Services

The Group offers a wide range of I.T. products and services. Bull focuses its R&D investments in its areas of excellence and works in close collaboration with leading partners to complete its offerings

Servers

Bull focuses its server R&D on high-end open systems and GCOS mainframes and offers additional systems through industrial partnerships. As a result, Bull's products span the different levels of information systems architecture: mainframe systems, data centers, departmental servers for distributed applications: and personal computers, the tools for individual productivity and access to networks and the Internet.

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Software

This new division brings together all of Bull's software skills, particularly in information systems management and security. The management of this new division has been established in Billerica, Massachusetts, in the United States.

Smart Cards and Terminals

Today, Bull is one of the three world class players in smart cards and payment terminals and one of the few smart card manufacturers to provide smart-card-based IT solutions. Bull combines its unique know-how in microprocessor and readers with IT expertise to deliver customer centric solutions. Bull is also a worldwide leader in terms of security in smart cards. Indeed, Bull obtained in 1996, 1997 and 1998, the first three official security certificates awarded to a smart card, according to the ITSEC standard recommended by the European Commission.

As a pioneer in smart cards, Bull is the third largest manufacturer world wide and number one for the banking industry, where its market share exceeds 30%. Bull is the worldwide leader in electronic purse cards with 27 million cards in use in more than ten countries.

Payment Terminals: Bull, is number one in Europe and fourth in the world and recognized by major international payment networks. It is well established in Southern Europe, Scandinavia and Eastern Europe. In 1997, Bull sold 200,000 terminals, bringing the total number of Bull terminals installed to 650,000 world wide.

Bull has achieved strong penetration in Latin America, where the company has become Visa's first supplier as part of the development program of electronic payment with debit-credit card and of Visa Cash™ electronic purses.

Automated Teller Machines: Bull is one of the main suppliers of banking automatons in Europe and Asia. Number 1 provider in France, Luxembourg and Austria, and number 2 provider in Belgium and Eastern Europe. Bull is also well established in the Republic of China. The ATM revenue has grown at an annual rate of 12% over the last four years (1994-1997).

Customer Services

With 4,700 specialists, international remote support centers, as well as service centers located close to customers in 85 countries, and a dedicated pan-European logistics system, Bull is a recognized player and ranks 5th. in the European Customer Services market. Specialist services engineers are fully trained in using advanced solutions and tools, and certified by market-leading partners, including Microsoft, Motorola, Novell.

In addition to providing maintenance and support services for both proprietary and open systems environments, the Customer Services Division has extended its offering with new value-added services, including : parc management, Helpdesk, security and high availability services.

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Bull's Customer Services ensures total availability of the information system with:

- implementation services, ranging from configuration, installation and deployment to hot staging, user training and migration services for transferring applications and data between both open and proprietary platforms.
- support and maintenance services, from around-the-clock support 24 hours a day and 7 days a week, to regular preventative maintenance of hardware, operating systems and applications.
- operational services to ensure high performance and availability for critical systems and applications, with a complete range of on-site and remote operational and administration services, including performance analysis, periodic health-checks, benchmarking and tuning.

Bull's tailored services cover three key domains:

- Systems services for Unix, GCOS and NT enterprise server environments
- Desktop services, including the international Service*Desk* offer that Bull launched in 1997 to support customer-facing users in multi-vendor environments, and to help master desktop cost of ownership
- Packaged services around Smart Cards and EFT (Electronic Financial Transaction systems, ATMs, POS-Point of Sale)

Integration Services

The Integration Services Division (ISD) is responsible for Outsourcing, System Integration and Networking services.

Recognizing each customer is different, ISD provides a complete range of services around Bull and partner's best-of-breed technology and integrates solutions that address the specific needs of business sectors.

Bull has thus implemented specialized business units dedicated to Telecommunications, Discrete Manufacturing, Banking and Finance, and Public Sectors to help them take advantage of new technologies, such as security software and networks, the Internet or smart cards. These business units draw on the products and know-how of products divisions. Sectorial specialization combined with technology know-how set Bull apart from service companies.

Alliances

Bull is actively developing a network of partnerships on a global, Europe-wide and country level. Along with increased geographical coverage, this strategy allows the company to gain skill and technology at low cost, optimize its cost structure, and gain market share in specific market segments. Its numerous local and international partners not only help in

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the building of solutions adapted to the local working environment, but also contribute real added value to local development.

Major strategic partners include NEC, Packard Bell, IBM, Motorola, Dai Nippon Printing, and 3Com.

Although the rapid change in technologies strongly encourages alliances and partnerships in many business sectors, success is never guaranteed. Partnership has been part of Bull's culture for many years. Whether in terms of R&D, manufacturing, or sales, Bull has chosen to focus its investments in its areas of excellence and to partner with the best specialists to complete its offerings and gain market access.

Industrial Partners

Sectors	Partners	Cooperation and projects achieved in 1997
Enterprise servers	NEC	For 25 years, NEC and Bull have shared and coordinated their efforts to develop large enterprise servers. NEC provides Bull with the Zeus system processors. Bull, in turn, developed the new Jupiter server, using Bull's CMOS technology that it sells to NEC.
PowerPC/AIX™ servers	IBM, Motorola	Thanks to its own developments and the partnerships established with IBM and Motorola, Bull has a full line of Power PC/AIX™ systems. In 1997, Bull announced a 5-year renewal of its partnership with IBM.
Intel/NT servers	NEC, Packard-Bell/ NEC	In 1997, Bull introduced the Express 5800 line of servers, designed by NEC and manufactured by Packard Bell NEC and Bull for the European and American markets. Bull cooperates with Packard Bell NEC and NEC to meet the needs of the European market. This line was completed in February, 1998, by the HV 8000 system which achieved a record performance of 14,900 transactions per minute.
Smart cards and payment terminals	NEC, DNP Motorola SGS-Thomson	A pioneer in the smart card, Bull has implemented a partnership strategy aimed at expanding its world leadership. The Group created a joint venture in Japan with DNP, the world printing leader. With Motorola, Bull is working on security and on a new card generation, both contact and contactless. In 1997, it announced with NEC the development of a low cost smart card used in customer loyalty applications.
OpenMaster	France Télécom	With OpenMaster, Bull has a series of administration tools whose technological advance is widely recognized by the experts. The TMN version (Telecommunications Management Network) of this package was developed within the framework of a partnership with France Télécom. In 1997, OpenMaster became the reference platform for many operators such as Telenor, Japan Telecom, Deutsche Telekom, France Télécom, SITA, ICL.

Source: Bull

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Competition

Bull competes with other hardware vendors and those service providers with strong technology skills. Its main competitors are IBM, Digital and Hewlett-Packard. Some large and medium-sized services companies, such as CGS, EDS and Logica, can be both partners and competitors on large systems integration projects.

Assessment

Bull has found its course over the last two years, recovering from the wrenching changes of privatization begun in 1994. The desire to increase market share worldwide, which translates to a requirement for significant gains in North America, is similar to goals set at Siemens in Europe and NEC (a major Bull shareholder) in Japan. Bull has gained significant electronic commerce experience through its work with smart cards. If Bull can manage to reposition their smart card expertise as a more generalized electronic commerce capability, it would be an important first step toward market acceptance in North America.

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program

May 1998

Bull-
Baan Services Providers

Contact Information for Baan Services in North America
Manufacturing, Logistics & Distribution V.P.:
Didier Chaussonniere

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68 route de Versailles
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France
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Internet: **www.bull.com**
E-mail: **didier.chaussonniere@bull.net**

The following profile outlines the services and support offered by Bull for Baan Services.

Company Background

With a presence in more than 85 countries, with nearly 22,000 employees and combined revenues of more than $4.7 billion in 1996, Bull offers a wide range of systems, infrastructure software and IT services through focused innovation, alliances with best partners, and its own integration expertise. Based in France, the company's North/South America headquarters are in Billerica, Mass., with significant R&D, marketing and customer support services in Phoenix, Ariz.

Bull operates in the systems integration and professional services business under the Integris brand name. Integris is particularly recognized for solutions based on enterprise software packages (e.g., Baan, Metaphase) as well as technology solutions (security, networking solutions, infrastructure projects, etc.).

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Bull is recognized both for Integration System Platforms (GCOS-based mainframes and open servers), and for new products (smart cards and related terminals, software for systems and network administration and security).

For Information Technology (IT) services, Bull is ranked in Europe as the third largest in systems integration and fifth in maintenance and support services.

The group offers a wide range of IT products and services. Bull focuses its R&D investments in its areas of excellence and works in close collaboration with leading partners (e.g., NEC, Motorola, France Telecom, Dai Nippon Printing, etc.) to complete its broad range of IT products and services.

Founded in 1922, Bull's ownership includes NEC, Motorola, France Telecom, French State, Dai Nippon Printing, Bull employees, private Individuals, and institutional Investors.

Baan Activities

Bull is just entering the North American Baan market, and will build upon its strong presence in Europe and Brazil (South America). In Brazil, 20 installations representing nearly 1,000 users today run Baan solutions in both Unix and Windows NT environments. Bull is a first-time participant in BaanWorld in the United States.

To increase its presence in the North American Baan market, Bull intends to reach agreements with major Baan services providers, including systems integrators, consultants and VARs. This approach will be supported by strong marketing investments to increase Bull's presence in North America. The balance of this profile details Bull's European credentials in the Baan marketplace, and demonstrates the company's strong commitment to the Baan product family and Baan users.

Bull entered the European Baan services market in 1990 and has 150 Baan customers in that region.

Manufacturing

For eight years, Bull has been actively working with industrial companies, installing and deploying Information Systems for Discrete Manufacturing operations. As such, Bull, as an international systems integrator, has a high level of experience in the Manufacturing sector. Bull has developed a strong partnership policy with the leading providers of industrial management applications such Baan International.

Bull's strategy was to select the leading products available on the market and incorporate them into a coherent offering which would meet the business requirements of an industrial company. Thus Bull's offering is built around Baan Software.

Bull offers its clients the same solutions that are used every day in its own industrial facilities, together with the international experience, professional skills and quality service guarantees of their teams and partners. Bull now has more than 400 Baan consultants and

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five competence centers focused on implementing complete manufacturing and logistics solutions to meet each customer's needs.

In addition, via the acquisition of the European logistics and distribution division of GSI Logistics and Distribution, Bull confirms its long-term strategic commitment to the manufacturing market in Europe, and is bringing together the skills and experience to become the market leader in Baan services projects with a global vision focused at the Supply Chain.

Technology

Bull has a full range of servers—whether AIX™ or Windows NT—with a full set of characteristics to meet customer needs for BAAN IV platform implementations.

Bull's Escala line is based on AIX™, which provides ideal support for business-critical environments. Bull's new high-end server, the Escala RL, is ideally suited as a back-end server for BAAN solutions and as a large DB/TP server. With over 150 successful BAAN IV installations, Bull's platforms are well recognized within the manufacturing sector.

In 1997, Bull integrated the BAAN IV solution into its production-strength environment, providing enhanced levels of robustness, security and manageability.

Bull/Zenith Data Systems' EXPRESS5800 NT servers provide a complete range of highly-scaleable servers—from entry-level workgroup servers to scaleable departmental enterprise servers. For the BAAN IV Back Office desktop, the PCs can run Windows 3.1x, Windows 95 or Windows NT.

Employees

Worldwide, Bull has 21,700 employees, of which 400 are committed to Baan support. In Europe, 365 of Bull's employees support the Baan practice. Exhibit 1 identifies six primary Baan skill categories, and notes Bull's staffing in these areas.

The total does not include 80 other specialists from Bull India.

Implementation Approaches

Bull uses MOSIC4BAAN methodology which combines the proved MOSIC™ (Management of System Integration Contracts) Bull Methodology and the BAAN TARGET Methodology.

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Exhibit 1

Bull Baan Staffing in Europe

Type of Staff	Current Number
Business Consultants	80
Project Directors	30
Project Managers	40
Application Consultants	200
Technical Consultants	
Post-implementation Support Personnel	15
Other	
Total	365

Source: Bull

MOSIC™ deals with Quality Management, Business Management and Project Management from the analysis phase to the delivery of the solution.

The BAAN TARGET Methodology has been integrated (based on Bull experience in Baan projects) within a system integration framework to cover all aspects of a Baan implementation.

Ongoing Support Offerings

Bull delivers application maintenance services and migration services to new releases.

Pricing Approaches

Bull's pricing options include fixed prices, after an analysis of the customer's business processes, or time and material.

Regarding ongoing support, Bull works in close cooperation with Baan and also offers application maintenance and outsourcing services.

Alliances and Partnerships

Groupe Bull has acquired the European logistics and distribution division of GSI Logistics and Distribution (GSI L&D). In addition, Bull will help TOLAS customers to include all Year 2000 and Euro features in their applications.

This new acquisition:

- Strongly reinforces Bull's capabilities in logistics and distribution for manufacturing around Baan.
- Enables Bull to answer the need of discrete manufacturing companies for end-to-end solutions to manage their global supply chain, from customer order through production, to final shipment.

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- Reinforces Bull's collaboration with Baan R&D. Bull has already developed the Wholesale Model with Baan Business Innovation.

Bull also has a strong cooperation with Metaphase in Product Data Management. Bull is the main European integrator who can offer both Baan and Metaphase in the same project.

Vertical Market Competencies

Bull's vertical industry target is Discrete Manufacturing. Emphasis is on engineering to order, make to order and assemble to order applications. Key industry sub-segments include Electrical/Electronic, Mechanical Engineering, Automotive (suppliers), Wholesale, and Aerospace.

Exhibit 2 summarizes Bull's market emphasis for their three target vertical markets.

Exhibit 3 details Bull's participation in seven broad market categories, in terms of the level of consulting or implementation involvement.

Exhibit 2

Vertical Market Expertise

Vertical Market	Sub-segment	Key Market?
Discrete Manufacturing	• Automotive	Yes
	• Aerospace	Yes
	• Electrical & Electronic	Yes
	• Mechanical/Engineering	Yes
Distribution	• Retail	Yes
	• Wholesale	Yes
Other	• Furniture	Yes
	• Fabricated Goods	Yes

Source: Bull

Strategic Positioning

Bull's considers its main strengths to be Focus, Stability, Depth and New Business Development:

Focus

From the beginning, Bull's focus with Baan has been on Discrete Manufacturing, which is a strong asset of both partners and the Baan product.

Stability

Bull was the first international partner for Baan and has maintained and developed relations for more than eight years. When a customer chooses partners for a mission critical solution, they need a relationship that will survive for the life of the system, not just the life of the project.

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Depth

Bull's Baan expertise encompasses consulting, development and technical expertise. Failure to provide any one of these critical elements can stall a project.

New Business Development

While multiple sales of Baan products have been to existing BULL manufacturing customers, more than 50% of business has been with new clients, with increasing sales to Metaphase (PDM) customers.

Bull offers its products and services in all European countries.

Plans for the Future

Bull plans to launch new systems integration business around Aurum, emphasize the use of DEM in all projects, and develop new business in Eastern Europe.

Selected Customer Projects

The three projects summarized in Exhibit 4 are a sample of Bull-supported Baan installations in Europe.

Exhibit 3

Level of Vertical Market Involvement, by Activity

Vertical Market	Consulting	Implementation
Aerospace & Defense	High	High
Automotive	High	High
Process Industries	Low	Low
Hybrid	Medium	Medium
Project Industries	Low	Low
Electronics	High	High
General Manufacturing	High	High

Source: Bull

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Exhibit 4

Bull References – Europe

Baan Customer	Industry (Vertical Market or Subsegment)	Project Details
Bull Electronics	Electrical and Electronic	Bull Electronics is the industrial company of Groupe Bull and applies the same processes and uses the same solutions that Bull offers to their clients. With its 500 concurrent users on client/server, the Angers factory in France is the largest site in Europe currently using the Baan software. The Bull Angers plant was looking for a single system to replace its separate systems and chose Baan because the software was fully integrated. Benefits of the Baan implementation include reduced operating costs, increased flexibility and dramatic improvements in "time to market."
Warner Electric	Industrial Machinery and Equipment	Warner Electric's Wichita operating unit has been running Baan IV as the basis of its core manufacturing operations since October 1997. The system supports 300 users and Bull will provide further support and consulting services through 1998.
Fagor Industrial	Fabricated Metal Products	Fagor is a leader in manufacturing equipment for the hotel business. Bull was chosen to implement a Baan IV ERP system to optimize short-term production, distribution, and sales activities, and improve product quality and customer services. Fagor is Bull's first Baan client in Spain.

Source: Bull

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Case Study

PPG Industries Glass & Fibre Glass GmbH in Pforzheim, Germany, one of Bull's first TRITON customers both in Europe and in Germany, is currently updating their TRITON installation to the new BAAN IV b2 release.

PPG Industries Glass & Fibre Glass GmbH belongs to the PPG group based in Pittsburgh, USA, and plays an important role in the European automotive glass market. In their part of the business, PPG Glass & Fibre Glass offers leading-edge technology with products such as rain sensors for the automatic start of wipers, heads-up-display technology, and glass with extremely low infrared transmission for more comfort and safety inside the car.

The focus of PPG Industries Glass & Fibre Glass GmbH is on wholesale sales of glass products and related items for cars to auto glass dealers, spare parts wholesalers, and organized automotive replacement glass trade groups. The production sites have direct sales channels to the automotive manufactures. The European market is served by affiliates in Germany, Italy, France, and the U.K. PPG Glass in Pforzheim serves the German market as well as the adjoining countries, allowing for fast delivery within 18 hours from one of their four warehouses.

As a sales organization, for PPG Industries Glass and Fibre Glass GmbH selected their initial TRITON system primarily because of its capabilities for Sales Control, Forecasting, and Stock Control.

PPG decided to go with Bull for their TRITON implementation (in the early 1990s) because Bull was at that time (and still is) a Baan Partner with long and proven experience and had an international team of BAAN consultants capable of managing international projects.

Bull's European presence was a key success factor in the implementation of the TRITON solution for the PPG Industries Glass & Fibre affiliates in the UK and France.

BAAN IV will run on the reliable, scaleable ESCALA system, currently with two processors and 3*2.1 GB disc space.

The success of PPG Industries Glass & Fibre Glass GmbH initial Triton system and the smooth updating of this resource to the new BAAN IV b2 release demonstrates Bull's know-how and expertise in the automotive industry.

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COMPANY HIGHLIGHT

BUNKER RAMO CORPORATION
Information Systems Division
25 Nutmeg Drive
Trumbull Industrial Park
Trumbull, CT 06609
(203) 377-4141

John R. Coutts, President
Division of Bunker Ramo Corporation
Employees: 1,600
Total Revenues FYE 12/31/79:
$92 Million*
Computer Services Revenues:
$40 Million*

THE COMPANY

- Bunker Ramo Corporation reports its revenues in three major market segments:
 - Electrical and Electronic Components.
 - Electronic Information Systems.
 - Knitted, Deep-Pile Fabrics.
- All of Bunker Ramo's computer-related activities are concentrated in the Electronic Information Systems segment, which consists of two divisions:
 - The Electronic Systems Division (Westlake Village, CA) conducts many activities involving contracts with government agencies. It designs, manufactures and supports equipment and systems for collecting, processing and analyzing electromagnetic and intelligence data. Also provided are microwave subsystems to original equipment manufacturers, systems engineering, computer programming, and field engineering support for computer systems.
 - Information Systems Division (ISD, Trumbull, CT) markets on-line terminals and minicomputer systems for banks and thrift institutions. In addition, it provides stock quotation network services to the brokerage industry.
- The remainder of this Highlight will concentrate on the services provided by the Information Systems Division.
- INPUT estimates that the Information Systems Division contributed $92 million of the $135.9 million in revenues reported in 1979 from Bunker Ramo's Electronic Information Systems segment. ISD provides services to brokerage and securities industries, and computer terminals, controllers and software for banks and thrift institutions.

* INPUT estimate

June 1980
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INPUT

- Domestic revenues from the brokerage and banking businesses are about equal. However, the banking business is expanding much faster than the brokerage one due to growing demands for on-line systems and to rapid penetration of international markets, particularly Europe.

- The banking segment clients purchase equipment (terminals, computers, controllers, etc.), and Bunker Ramo provides maintenance after the hardware sale. Third-party software and computer services vendors are known to supply applications programs which operate with Bunker Ramo hardware.

- Bunker Ramo has terminals in service in over 3,000 banks and 225 thrift institutions.

- Computer services revenues, estimated by INPUT at $40 million in 1979, derive entirely from the brokerage side of the market. The division serves over 3,000 brokerage offices, using 25,000 terminals, with market information from 25 stock, bond, commodity and option exchanges. Customers have access to a large and comprehensive data bank of on-line financial information.

- The total number of U.S. employees in ISD is 1,600, including maintenance personnel. One thousand of these are at division headquarters in Trumbull (CT); the remainder are dispersed throughout the U.S.

- The division's major competitors in the brokerage systems market are:

 . GTE Information Services.

 . Quotron Systems.

KEY PRODUCTS AND SERVICES

- ISD derives an estimated 43% ($40 million) of its revenues from computer services. Its original stock quotation boards were mechanical devices introduced in May 1929. Currently, the heart of the Quotation system is a large financial data base at the Trumbull (CT) computer center. A 150,000 mile communications network, combined with five regional data centers, services over 25,000 Bunker Ramo manufactured terminals.

- Most of the service is provided via Market Decision System 7, the company's name for its minicomputer-based terminal system. Another older quotation system, Telequote III, still serves hundreds of brokerage offices (and airline terminals) with low-cost quotation service.

- Many brokerage firms also use System 7 for access to their own computer systems and to other data bases, such as that of Argus Research Corporation with its investment recommendations. Subscribers can also use Bunker Ramo's System 7 network for limited data flow between their own branch offices.

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- In 1978, ISD signed a $10.5 million, three-year contract to manage the National Association of Securities Dealers, Inc.'s NASDAQ system which supplies price quotations and other data in the over-the-counter (OTC) securities market.

- Dow Jones news retrieval service receives its stock market prices via the Bunker Ramo network.

INDUSTRY MARKETS

- The quotation service is sold mainly (90%) to brokerage firms, although quotation terminals are also widely dispersed in airports, corporate offices and individual offices and homes. Wherever investment information is in demand, a Bunker Ramo terminal has a potential application.

GEOGRAPHIC MARKETS

- Computer services revenues are entirely derived from the 48 contiguous states in the U.S. The information data stream is supplied to a Bunker Ramo affiliate based in Munich, Germany, which sells the service independently in Europe. These revenues do not flow to ISD.

COMPUTER HARDWARE

- Computers are located at the main data center in Trumbull (CT). There are four remote data centers located in Atlanta, Chicago, New York and San Francisco.

 - Trumbull has six DEC PDP-11/45s and four Data General Novas.

 - Each remote data center has six Data General Novas.

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COMPANY HIGHLIGHT

BUSINESS AUTOMATION
425 Bush Street, Suite 205
San Francisco, CA 94108
(415) 433-2165

Floyd H. Osborn, CEO and Systems Analyst
Private company
Total employees: 22
Total revenues, fiscal year end 12/31/76: $600,000

COMPANY BACKGROUND:

- Business Automation (BA) is a sole proprietorship founded in 1968 by F. H. Osborn. It provides accounting data processing services to approximately 100 users in several industries and is in the process of converting from local batch to online remote entry and output services.

OVERALL ASSESSMENT:

- At present all revenues are derived from local batch processing. By year end 1977, Business Automation anticipates that 25% of all revenues will be generated by online remote job entry processing. The company's move to online services is its response to the negative impact turnkey small business systems have had on revenues.

- Business Automation's user base has been acquired through CPA referrals (Osborn is an ex-CPA). Recently, however, the company's marketing staff of two began to market directly to end users.

- It is hoped dealing directly with end users will reduce the demand for customized input and output. The degree of product customization now required by CPA clients is the single largest hindrance to the company's expansion as staff limitations impact the speed with which new clients can be added. The company has had difficulty recruiting experienced programmers with accounting expertise.

- Automatic Data Processing gives the company its toughest competition. Lesser competition comes from Statistical Tabulating Corp.

- Although Business Automation would consider a serious offer for acquisition, it is not actively seeking it. As its remote job entry services expand, the company will require additional capital. This will be obtained through merger or through non-commercial investors.

COMPANY HIGHLIGHT/BUSINESS AUTOMATION

- The company derived $75,000 net profit in 1976 and expects about $150,000 net profit on $1 million revenues in 1977.

KEY PRODUCTS AND SERVICES:

- Business Automation provides accounting oriented data processing services to 100 users.

- Business Automation is changing from a local batch processing firm, to a firm providing remote computing services. In 1979 remote computing services are expected to generate 75% of (BA) revenues.

- Services are priced per transaction with a minimum price per service. Average cost is $.08 per transaction. Payroll costs $.45 per check processed, $20 minimum.

APPLICATIONS:

- All Business Automation applications are general business oriented. They are segmented as follows:

- general ledger	22%
- order entry	20%
- accounts receivable and job costings	25%
- accounts payable	2%
- inventory control	7%
- specialized programs	10%
- other	14%

INDUSTRY MARKETS:

- Directly or indirectly (by referral) CPA firms provided all revenues in 1975 and 1976, but represented only 60% of end user revenues.

- By year end 1977, end user revenues will be derived from the following industries:

- CPA firms	25%
- Manufacturing-discrete	25%
- Distribution-retail	20%
- Medical and hospital	10%
- Services	5%
- Wholesale distribution	5%
- Other	10%

GEOGRAPHIC MARKETS: All Business Automation users are located in the Pacific Coast region, specifically in California. The company does not intend to expand geographically; however, it would expand to satisfy client needs.

COMPUTER HARDWARE AND SOFTWARE:

- Business Automation is currently using a Computer Hardware, Inc. 2130 mainframe with version 2 Mod 12 operating system. It also uses (4) Memorex 2314 type disc drives, 2 tape drives, 1 data printer 600 lpm printer, and ADM CRT's installed at client locations. It has ordered 5 ADM terminals for inhouse use and is ordering 32 more. Onsite client terminals are the responsibility of the client. Currently clients use Sycor terminals to generate tape cassettes for data input.

INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

April 1996

Business@Web, Inc.

Chairman & CEO: Klaus P. Besier
One Arsenal Marketplace
2nd Floor
Watertown, MA 02172
Phone: (617) 923-6500
Fax: (617) 923-6565
Internet: Http://www.busweb.com

Status:	Private
Employees:	105 (4/96)
Revenue:	$6,000,000*
Fiscal Year End:	12/31/95

** INPUT estimate*

Key Points

- Business@Web (formerly Object Power Incorporated) provides software development tools, education, and consulting services to Internet-enable companies at multiple entry points in the IT process.
- In February 1996, former SAP America president—Klaus P. Besier—joined Business@Web as chairman and CEO.
- In February 1996, Hewlett-Packard (HP) formed an agreement with Business@Web to provide joint technology and marketing services. HP also made an equity investment in Business@Web.
- In the past several months, Business@Web has also announced partnerships with Baan Company, Deloitte & Touche Consulting/ICS, Informix, and NEC.
- In January 1996, Business@Web launched OpenScape™, reportedly the first component-based development environment that spans both the Internet and the enterprise (private Intranets).

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Company Description

Business@Web provides component-based software development and management tools, as well as technical education courses and consulting services focused on component software implementation to Internet-enable companies of all sizes.

Business@Web was founded in 1994 as Object Power Incorporated, a spin-off of Cambridge Technology Group.

In February 1996, the company changed its name to Business@Web to reflect its ultimate goal to help businesses increase their responsiveness and integrate traditional information systems and databases with the Internet.

Organization and Structure

Business@Web is headquartered in Watertown (MA).

Key executives of the company are listed below:

Business@Web Key Executives

Name	Title
Klaus P. Besier	Chairman & CEO
John Burke	VP Sales
Michael Fan	VP Product Management
Carolyn Logalbo	VP Marketing
John Nondorf	VP Strategic Alliances
Eric Sockol	Chief Financial Officer

Company Strategy

Business@Web is committed to the philosophy and practice of open computing and integration in an Internet environment and has focused on component technology—the melding of three-tiered client/server architecture and object-oriented design.

- Business@Web believes that component technology represents the most powerful tool aligning business and technology.
- The company believes it is currently the only vendor that provides a complete, system-wide, standards-based component-based business solution for the Internet.
- In addition to its component software development and management tools, the company provides planning, implementation and empowerment/education services to ensure the transfer of skills and knowledge to its customers. These services can be jointly provided with Business@Web's partners.

Financials

INPUT estimates that Business@Web's 1995 revenue reached approximately $6 million.

It is anticipated that 1996 revenue will reach $12 million.

Revenue Analysis by Product/Service

Business@Web's revenue is derived from software products, systems integration, migration, Internet and other technical and implementation services and education courses.

Market Financials

Business@Web has clients in virtually every industry, including financial services, insurance, discrete and process manufacturing, retail, telecommunications, wholesale, utilities, education, as well as government.

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Geographic Markets

One hundred percent of Business@Web's 1995 revenue was derived from the U.S.

Employees

As of December 31, 1995, Business@Web had approximately 75 employees. The company currently has 105 employees, segmented as follows:

Marketing and sales	30
Customer support	35
Research and development	25
General and administrative	15
	105

Key Products and Services

Business@Web's architecture is a standards-based distributed component architecture that combines a distributed three-tier client/server architecture with object-oriented design, allowing organizations to fully capitalize on code reusability.

OpenScape Products

OpenScape enables developers to create interactive Web pages, ActiveX controls, and OLE 2.0 objects.

- Graphical user interfaces assembled from reusable OpenScape components provide access to local databases such as Microsoft Access or Microsoft SQL Server.
- OpenScape enables the development of both visual components and business logic components that may access relational databases from Windows NT servers.
- OpenScape employs an intuitive point-and-click development environment with a Visual Basic-compatible scripting language. It can be used to build dynamic and attractive visual components for Internet applications.

OpenScape Enterprise is designed for development of robust, secure, high transaction volume applications used by large corporations over the Internet or corporate Intranet.

- It provides the capability to integrate legacy systems and/or packaged applications such as SAP R/3, Baan TRITON, and PeopleSoft.
- In addition, OpenScape Enterprise includes system utilities for managing a distributed environment that integrates heterogeneous systems.

OpenExtensions are offered to provide access to existing systems and computing environments from Internet or Intranet applications built with Business@Web software.

- OpenExtension for SAP allows developers to automatically generate business logic components that interface with SAP R/3 ABAP code via native SAP Remote Function Calls.
- OpenExtension for Middleware provides a means for developers to access existing enterprise servers built with the Open Software Foundation's Distributed Computing Environment and Open Environment Corporation's Entera middleware product. OpenExtension for Middleware is intended to Internet-enable existing servers by wrapping them in a generic component interface that may be called from browsers, such as Microsoft Internet Explorer and Netscape Navigator, and desktop OLE environments.
- Business@Web plans to release additional OpenExtension products.

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Services

The objective of Business@Web's suite of services is to assist organizations with their move into component technology. Services follow two primary paths—Solution-Based Services and Product-Based Services.

With implementation services, Business@Web will assess, scope, implement, and deploy mission-critical applications while ensuring technology transfer for future implementation. Services include:

- Initial on-site assessment
- Systems integration application scoping
- Systems integration application pilots
- Migration application staging and planning

With product-based services, the customer is allowed to pick the program modules needed to implement a project. Services include:

- Application-based component design workshop
- Technology transfer
- Component development session
- Custom component construction program
- Component management training

Internet services combine Business@Web's OpenScape technology and the above service methodologies to assist clients in linking their enterprise with the Internet. By leveraging Business@Web and Netscape, clients can build applications with distributed components for use on a corporate network (the Intranet) and then, as necessary, position this same application for use on the Internet.

Business@Web also works with various partners to provide customized solutions to its clients.

- Business@Web's Master Partner Program for Implementation and Integration provides Business@Web software tools, training, certifications, joint marketing, and support services at reduced rates to partners.

- Business@Web currently works in cooperation with Baan, Brainstorm Technologies, Cambridge Technology Group, Deloitte & Touche Consulting Group/ICS, Digital Equipment Corporation, Hewlett-Packard, IBM, I-CUBE, Informix, NEC, Open Environment Corporation, SAP, and Siemens Nixdorf.

Business@Web has provided consulting/systems integration services to more than 30 clients.

Education Services

Business@Web offers a series of educational courses and seminars in the following areas:

- *Technical OpenScape Program (TOP)* is a one week program to train technical professionals in creating, deploying, and managing OpenScape applications for the Internet and the enterprise.

- *Leveraging SAP's Architecture* is a five-day program designed to help companies understand and leverage SAP R/3 architecture and integration capabilities.

- *Business Component Methodology Seminar (BECOME)* is a two-day course related to distributed component architecture.

- *OpenScape Certification Program* is a program designed to certify developers in use of Business@Web's technology.

Clients

Business@Web currently has more than 15 customers that use its OpenScape products. A sample of clients includes NEC, Mercury Insurance, BC Transit, and Babson College.

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Marketing and Sales

Business@Web markets its products and services through a direct sales force and through its partnerships.

Alliances

Business@Web has alliances/partnerships/marketing agreements with various vendors.

- *Baan* and Business@Web are jointly developing and marketing Internet-enabled client/server application solutions based on OpenScape and Baan's TRITON family of applications and tools.
- Through *Cambridge Technology Group*, Business@Web has a close working relationship with SAP and offers a number of SAP-related services.
- *Deloitte & Touche Consulting Group/ICS* and Business@Web are working together to provide solutions for SAP customers interested in building business applications for the Internet and private Intranets.
- *Digital Equipment Corporation* is working in conjunction with Business@Web on many of its application staging and planning engagements.
- *Hewlett-Packard* and Business@Web currently provide a joint offering titled the *Solution Blueprint* for both migration and systems integration projects.
- *IBM* and Business@Web currently offer a joint service titled *Fast-Track to Strategic Applications*. Business@Web has also worked with IBM in joint development projects.
- *Informix* and Business@Web are providing businesses with the first enterprise application development environment that integrates the Internet with rich media content, including video, audio, HTML, and other emerging data types. OpenScape will be bundled with Informix's Illustra enterprise multimedia database server.
- *NEC* and Business@Web have formed a joint development partnership to build next-generation workflow solutions that automate and integrate intra- and inter-business processes with enterprise systems.
- *SAP* and Business@Web have a close working relationship, with Business@Web now offering a range of SAP-related services that ease the integration of SAP R/3 with legacy systems, non-SAP client/server applications, PCs, existing systems, and future technologies.
- *Siemens Nixdorf* is currently working with Business@Web as a Master Partner in the Master Partner Program for SAP Implementation and Integration to deliver custom solutions for R/3 customers and prospects.

Other partners on various projects include Technology Group, I-CUBE, and Brainstorm Technologies.

Competition

Business@Web's major competitors include NeXT and Wayfarer.

Assessment

Business@Web's strengths include:

- Focus on business solutions
- Component-based technology
- Integration with existing legacy systems
- Three-tiered architecture

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Challenges over the coming year include:

- Managing growth
- Attracting high caliber, experienced employees

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COMPANY BRIEF

Cross Industry: Systems Software

Business Computer Solutions, Inc. (BCSi)
1200 N.W. 78th Avenue
Suite 100
Miami, FL 33126
(305) 591-2274

CEO: Ron Goldstein, President
Public Company, OTC
Founded: 1979

Employees: 30 (11/86)
Revenue (FYE 2/28/86): $720,000
Revenue (six months ending 8/31/86): $1,170,000

The Company: BCSi markets and supports the ZFOUR development language

Source of Revenue:
- Systems Software (100%)

Key Products:

- Systems Software (Available in UNIX-based systems for IBM, DEC, DG, Intel, AT&T, and HP, as well as the Wang VS operating system. ZFOUR will run on most super micros and IBM PC XT, AT, or compatible UNIX microcomputers)
 - ZFOUR, a fourth generation development language that includes a relational data sublanguage. Programming tools include code generating editors, screen painting generators, visual programming productivity tools, and complete report generator features.

Target Industries:
- Fortune 100 and 500 companies
- Federal government agencies
- ZFOUR is installed in Grumman Aerospace, EXXON, General Dynamics, R. J. Reynolds, Standard Oil of Ohio, as well as the Naval Surface Weapons Center, NATO, and the World Bank

Geographic Markets:
- U.S. (95%)
- Non-U.S. (5%), including Peoples Republic of China and Latin America
- Sales Offices: New York City, Boston, Chicago, Atlanta, Washington, D.C., Beijing, and Hong Kong

November 1986

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Other:

- ZFOUR was originally released as XEMIS
- BCSi offers software support and training at regional centers or on-site and operates a telephone support hotline

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COMPANY
PROFILE

BUSINESS SYSTEMS GROUP, INC. (BSG)

11 Greenway Plaza, Suite 900
Houston, Texas 77046
Phone: (713) 965-9000
Fax: (713) 993-9249

CEO:	Steven Papermaster
Status:	Private
Employees:	400
Total Revenue:	$24 million*
FYE:	12/31/93

*INPUT Estimate

Key Points

- In fiscal 1993, Business Systems Group, Inc. (BSG), was estimated to have increased revenues to $24 million.
- In November 1993, BSG announced the establishment of a subsidiary to help companies manage the transition to client/server computing.
- In July 1993, BSG negotiated a major, multiyear client/server integration project with Hyatt Hotels Corporation. This is BSG's biggest contract to date and initial estimates put the deal at $100 million over a 10-year period.
- In July 1993, BSG announced two high-level appointments aimed at continuing the company's expansion. Thomas E. Mark was named director in the Houston office and Jay H. Rosenfeld was appointed national director of sales and marketing. A 14-year consulting industry veteran, Mark served as director at Ernst & Young's information technology group. Rosenfeld, a 20-year industry veteran, was most recently a partner at Andersen Consulting.
- In January 1992, BSG announced the formation of BSG Capital Corp. headed by BSG founder, Steven Papermaster. BSG Capital is a source of funds, both internal and privately placed, to finance acquisitions and equity investments.

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Company Description

Business Systems Group, Inc.(BSG), founded in 1987 by Steven Papermaster, is a leading integrator of client/server network computing and information technology consulting products. BSG provides computer-based business solutions involving technologies such as network application development tools, client/server SQL database servers, graphical user interfaces and document imaging systems.

BSG's primary goal is to help companies transition from mainframe computing to network-based client/server systems.

Financials

Total fiscal 1993 revenue is estimated at $24 million, a 60% increase over fiscal 1992 revenues of $15 million. Operating margin was at 36% in 1993.

A three-year financial summary follows:

BUSINESS SYSTEMS GROUP, INC.
THREE-YEAR FINANCIAL SUMMARY
($ Millions)

	FISCAL YEAR		
ITEM	1993	1992	1991
Revenue	$24	$15	$7

Market Financials

BSG entered the systems integration market by serving oil and gas firms in the Houston area. BSG serves companies in various industries particularly targeting the following industries; energy and petroleum. transportation, manufacturing, insurance and financial services, health care and consumer goods.

Geographic Markets

Approximately 90% of BSG's fiscal 1993 revenue was derived from the U.S. and 5% from Europe and 5% from Asia.

Organization Structure

Business Systems Group, Inc. is the parent company for:

BSG Consulting Group
BSG Educational Services
BSG Alliance/IT
BSG Capital Corp.
BSG Communications, Inc.

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BSG's core structure consists of the following three companies:

BSG Consulting, providing consulting and systems integration services to Fortune 1000 companies.

BSG Educational Services, providing training in client/server computing and other emerging technologies.

BSG Alliance/IT, a company created in 1993 designed to handle long-term technology alliances that focus on business transformation. Alliance/IT has offices in Atlanta, Chicago, Dallas, New York and Houston.

Steven Papermaster is the Chairman and CEO of BSG Corporation and Don Baker is President of BSG Consulting. Managing directors run each office with help from the director level. Projects are staffed by senior consulting and technical managers.

BSG Communications is the publishing division of BSG, Inc. BSG has published the following books and technical newsletters; *NetWare Advisor, Downsizing Information Systems, Client/Server Computing* and *Enterprise-Wide Networks*.

Employees

The following information presents a breakdown of BSG's staff allocations as represented by staff capabilities:

Business Management Consulting	50%
Applications Design & Development	10%
Network Design & Development	10%
Systems and Network Operations	10%
Technical Support	10%
User Support	5%
Sales	5%

Strategy

BSG's strategic focus is delivering value-added system integration and professional services concentrating on client/server systems architecture and emerging technologies. BSG also continues its diversification to multiple industry segments. The company recently won an important contract from Ortho Biotech, a subsidiary of Johnson & Johnson.

Alliances

Although BSG is an independent private company, it does have alliances with the following hardware and software vendors:

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Hardware Vendors
Hewlett Packard
Compaq Computer
Sun Microsystems, Inc.
Dell Computer

Software Vendors
Microsoft Corporation
Powersoft
Novell
Oracle
Sybase
Trinzic
Easel Corporation

Key Products and Services

BSG offers a complete set of system integration capabilities with a key focus--distributed client/server computing.

Consulting and System Integration Services

BSG offers the following consulting and system integration services:

Downsizing Information Systems
Business Process Re-engineering
Distributed Systems and Applications
Client/Server Systems Planning and Development
Systems Maintenance and Network Management
Disaster Recovery Planning
Network Assessment

Technology Assistance

Object-oriented Design & Development
Workflow and Document Imaging
Network Management & Support Software
Windows-based Development Tools
High Performance Networks
Distributed Groupware
Database Server Engines

BSG services are delivered with a methodology using a client/server approach. This system is called the BluePrint Methodology. BSG has also developed a tool set called, Object Development Environment.

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Together they provide a decrease in programming development time and enable BSG consultants to improve systems efficiency.

Clients

BSG clients include the following companies:

AI Credit Corp., Coca Cola Foods, Compaq Computer, Dow Chemical, Dun & Bradstreet, Enron Gas Liquids, Inc., Exxon Corp., GE Capital Corp., Nabisco Foods, Transwestern Pipeline Co. and UNOCAL.

Competitors

BSG's views the following companies as competitors; Andersen Consulting, Cambridge Technologies, Ernst & Young and SHL Systemhouse.

INPUT Assessment

BSG is well positioned to take advantage of the change in information systems architecture to a distributed client/server model. The national market for client/server technology is estimated to grow from $4 billion in 1992 to as much as $34 billion by 1997, according to INPUT forecasts.

In addition, BSG also offers clients the use of emerging technologies, especially in the document management and communication areas.

The combination of client/server expertise, established methodologies and tool sets with a proven track record in client/server system integration will enable BSG to achieve its goal of a 70% revenue increase in fiscal 1994.

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COMPANY
PROFILE

CACI INTERNATIONAL INC.

1100 North Glebe Road
Arlington, VA 22201
Phone: (703) 841-7800
Fax: (703) 528-7232

Chairman, President, & CEO:	J.P. London,
Status:	Public Corporation
Total Employees:	2,900 (12/93)
Total Revenue:	$145,148,000
Fiscal Year End:	6/30/93

Key Points

- CACI, an international information technology (IT) products and services corporation, specializes in developing and integrating systems, software and simulation products in support of government agencies and commercial enterprises worldwide.
- Over the past three years, Jack London, chairman, president and chief executive, has repositioned the 32-year old CACI as a premier IT company and has managed to secure sizable information systems contracts from the Department of Defense Information Systems Agency, the U.S. Army and the Department of Justice.
- During fiscal 1993, CACI won 10 of the 12 major bids submitted and every contract recompeted.
- In late 1993, CACI acquired the federal government systems business of SofTech, expanding CACI's expertise in integration, software reuse and development and simulation, as well as forming a stronger presence within the U.S. Air Force.
- In the fourth quarter of fiscal 1993, discussions involving a possible merger between CACI and COMARCO Inc. were terminated.

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Company Description

CACI International, founded in 1962, is an international organization that provides a range of professional services, proprietary software products, systems integration and systems operations services to government and commercial clients throughout North America and Western Europe.

Products and services provided include computer-based information technology, systems, custom software, integration and operations imaging and document management, simulation and proprietary database and software products.

Strategy

Over the past several years, CACI management has repositioned the company within the IT industry to achieve greater growth. CACI has moved from a "diversified professional and technical services" company to an IT company delivering total IT solutions--integrating clients' technology needs for hardware, software, networks, multimedia, telecommunications and imaging--to help clients improve the state of their business practices.

- With IT as its main focus, CACI is now pursuing clients across the spectrum of government and commercial markets. More than 40% of fiscal 1993's new contract awards are with clients outside the defense industry.

- To position the company in the IT industry, CACI has developed core tools, methodologies and products to leverage its clients' technology investments and maximize their business processes.

- The investment in the CACI Advanced Technology Center (CATC) and the formation of a central business development unit are investments to drive internal growth. The CATC gives CACI the ability to transfer technology from one business group to another, develop new applications and display products and abilities to potential clients. CACI's central business development unit is driving a corporate approach to new business development and focusing resources to pursue larger and better opportunities.

- Through both internal growth and acquisitions, CACI's goal is to have $300 million in revenues by the end of fiscal 1996 and to have shown consistent earnings growth.

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Financials

CACI's fiscal 1993 revenue reached $145.1 million, a 4% increase over fiscal 1992 revenue of $139.9 million. Net income for fiscal 1993 declined 29% to $3.0 million and includes real estate lease litigation settlement costs of $1.9 million.

A five-year financial summary follows:

CACI INTERNATIONAL INC.
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR				
ITEM	6/93	6/92	6/91	6/90	6/89
Revenue	$145.1	$139.9	$136.9	$148.1	$146.1
· Percent increase from previous year	4%	3%	(8%)	1%	6%
Income before taxes	$4.9 (a)	$7.1	$0.7 (a)	$5.8	$5.0
· Percent increase (decrease) from previous year	(31%)	914%	(88%)	15%	(14%)
· Gross margin	3%	5%	1%	4%	3%
Net income	$3.0	$4.2	$1.0	$4.0	$3.7
· Percent increase (decrease) from previous year	(29%)	320%	(75%)	8%	(8%)
· Net margin	2%	3%	1%	3%	3%
Earnings per share	$0.29	$0.40	$0.10	$0.35	$0.31
· Percent increase (decrease) from previous year	(28%)	300%	(71%)	13%	(6%)

(a) Includes excess facilities and lease cancellation fees of approximately $1.9 million in fiscal 1993 and $2.4 million in fiscal 1991.

Revenue increases in fiscal 1993 were due to a 23% ($7.2 million) increase in commercial revenue and a 4% ($3.2 million) increase in DoD revenue, offset by an 18% ($5.1 million) decline in revenue from non-DoD federal agencies.

- The growth in commercial revenue came from the acquisition of American Legal Systems on July 1992, which generated $5.6 million in revenue, and from a 16% ($2.1 million) growth in U.K.-based marketing systems sales due to recovery in the U.K. economy and an increase in sales staff and marketing resources.

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- The decline in non-DoD federal government revenue was primarily in Department of Justice (DoJ) revenue. CACI provides automated litigation support services to the DoJ and the service level is dependent on litigation case loads, which were down during the year. CACI has won new contracts with the DoJ for litigation support services and revenue in this area is expected to increase during fiscal 1994.

- The growth in DoD revenue was primarily from existing contracts. CACI was awarded several contracts in the last quarter of fiscal 1993 and DoD revenue for fiscal 1994 is expected to show an increased growth rate.

Revenue for the six months ending December 31, 1993 reached $82.2 million, up 14% from the same period in 1992. Net income reached $2.5 million, up almost 190% from the same period a year ago. End of quarter backlog was a record $693 million versus $366 million on December 31, 1992.

Market Financials

Revenue from contracts with the U.S. government contributed approximately 71% to CACI's total revenue in fiscal 1993 and the remaining 29% of revenue was derived from commercial clients.

A three-year summary of source of revenue follows:

CACI INTERNATIONAL INC.
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	6/93		6/92		6/91	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Federal government						
· DoD	$80.0	55%	$75.0	54%	$69.0	51%
· Other agencies	23.0	16%	28.0	20%	18.0	20%
	$103.0	71%	$103.0	74%	$97.0	71%
Commercial clients	$42.2	29%	$36.9	20%	$39.1	29%
TOTAL	**$145.2**	**100%**	**$139.9**	**100%**	**$136.1**	**100%**

Federal government revenue is derived from the DoD and other non-DoD agencies.

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Commercial revenue is derived from a variety of clients in the discrete and process manufacturing, retail distribution, telecommunications, information services and other industries and state governments.

For the six months ending December 31, 1993, approximately 70% ($57.1 million) of revenue came from federal government clients and 30% ($25.1 million) from commercial clients.

INPUT estimates CACI's fiscal 1993 U.S. information services revenue was approximately $120 million and was segmented as follows:

Professional services	47%
Systems integration	13%
Systems operations	18%
Software products	22%
	100%

Geographic Markets

Approximately 88% of CACI's fiscal 1993 revenue was derived from the U.S. and 12% from international sources. A three-year financial summary by geographic market follows:

CACI INTERNATIONAL
THREE-YEAR GEOGRAPHIC FINANCIAL SUMMARY

	FISCAL YEAR					
	6/93		6/92		6/91	
ITEM	$ MILLIONS	PERCENT OF TOTAL	$ MILLIONS	PERCENT OF TOTAL	$ MILLIONS	PERCENT OF TOTAL
Revenue						
- U.S.	$127.4	88%	$124.1	89%	$118.7	87%
- International	17.7	12%	15.8	11%	17.4	13%
	$145.1	100%	$139.9	100%	$136.1	100%
Net income						
- U.S.	$2.2	73%	$3.9	93%	$1.4	140%
- International	0.8	27%	0.3	7%	(0.4)	(40%)
	$3.0	100%	$4.2	100%	$1.0	100%

For the first half of fiscal 1994, approximately 86% ($70.3 million) of revenue was derived from the U.S. and 14% ($11.9 million) was derived from international sources.

Operating Structure

CACI is organized into three strategic units as follows:

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- The Information Systems Group provides professional services, systems integration and processing services to government and commercial clients. This unit includes CACI, Inc.-Federal (software and systems), CACI Field Services Inc. (maintenance and systems engineering), American Legal Services Corporation (commercial litigation support services); CACI Inc.-Commercial (federal litigation support services); and CACI Systems Integration, Inc.

- The Marketing Systems Group provides value added demographic and geographic data collected for the Census, as well as a variety of software products to aid in marketing decisions.

- The Simulation Systems Group includes the CACI Products Company and provides simulation software products and services primarily to commercial users such as aerospace companies, telecommunications companies and other industrial-based markets.

CACI Limited, headquartered in London, is CACI's major operating subsidiary in Europe. It operates primarily in support of CACI information systems, marketing systems and simulation technology lines of business in the U.K. and Western Europe.

In addition to its headquarters, CACI has operating offices and facilities in 44 additional locations throughout the U.S., Europe and Canada.

- U.S. offices are in Alexandria, Crystal City, Herndon, Norfolk and Virginia Beach (VA); Bloomington (IN); Charleston (SC); Chicago (IL); Colorado Springs (CO); Dallas and San Antonio (TX); Dayton (OH); La Jolla and San Diego (CA); Latham (UT); Lexington Park (MD); Louisville (KY); Mechanicsburg and Philadelphia (PA); Montgomery (AL); New York (NY); Orange Park, Palm Coast and Tampa (FL); Phoenix (AZ); Waltham (MA) and Washington, D.C. Project support offices are in Bremerton (WA), Cheyenne (WY), Cherry Point (NC), Crane (IN), Oakland (CA), Pearl Harbor (HI), Portland (OR) and Wichita Falls (TX).

- Canadian offices are in Edmonton (Alberta) and Ottawa (Ontario).

- European offices are in London (England), Edinburgh (Scotland), Camberly (England) and Maastricht (the Netherlands).

Employees

As of June 30, 1993, CACI had approximately 2,300 employees. As of December 1993, the company had about 2,900 employees, including 240 employees outside the U.S.

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Acquisitions

In December 1993, CACI completed the acquisition of the government systems business of SofTech, Inc., a $25 million per year information technology business with expertise in software reuse, software conversion and migration, embedded tactical software and simulation and modeling. The purchase price was approximately $4.2 million.

- The acquisition adds approximately 210 new employees and principal offices in Dayton (OH), Alexandria (VA), Colorado Springs (CO), Latham (UT) and Waltham (MA).

- The deal is expected to contribute approximately $15 million in revenue and $440,000 in net after tax income to CACI's fiscal 1994 results and about $25 million in revenue and $750,000 of net after tax income on an annualized basis.

In October 1993, CACI acquired the Miracle accounting system and associated client base from U.K.-based Miracle Products Ltd.

- The acquisition included five employees and will add $700,000 in annual revenue to the company's U.K. operations.

- The acquisition complements CACI's existing Ingres-based PROPHECY accounting product and its FMMS facilities management system and gives CACI an installed base of over 70 clients using its accounting systems.

In September 1993, CACI acquired the Pinpoint geodemographic business of MAI, plc, a $1.5 million per year U.K.-based market analysis business which previously competed with CACI's InSite proprietary product.

In July 1992, CACI acquired American Legal Systems Corporation (ALS) of New York (NY) for approximately $2.8 million plus contingency payments based on future performance. The transaction was accounted for as a purchase.

- ALS is a service company providing applications programming and litigation support to law firms and corporate legal departments.

- ALS had approximately 200 employees at the time of the acquisition.

Key Products and Services

CACI offers products/services in the following application areas:

- Business process redesign

- Software re-engineering

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- Computer-aided logistics/data information systems
- Imaging services
- Simulation systems and modeling
- Automated documents and records management systems
- Executive decision support systems for military planners
- Contracting and purchasing systems
- State motor vehicle registration and related management information systems
- Litigation support systems and services
- Inventory management and control systems
- Inventory levels setting and allocation systems
- Weapon systems/equipment configuration management systems
- Retail and point-of-sale (POS) information systems
- Retail planning systems
- Site location and analysis systems
- Sales management and business support systems
- Marketing and customer database management systems
- Manufacturing requirements planning systems
- Ammunition management information systems
- Airport and airspace traffic planning

Contract examples include the following:

- In December 1993, CACI was awarded an $11.4 million, five-year subcontract with Research Planning, Inc. to support the Department of Defense Integrated Undersea Surveillance System (IUSS) In-Service Engineering Agent and help the Navy address fleet downsizing. CACI has supported the IUSS program for the past 12 years.

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- In October 1993, CACI was awarded a competitive subcontract in support of the U.S. Navy Intra Supply Support Operations Program (ISSOP) for the Fleet Operations Supply Support Assistance Center in Norfolk (VA). CACI will perform as subcontractor to Management Consulting, Inc. to provide logistics support services, including material handling, distribution, stowage, inventory management and inventory reconciliation to increase supply readiness throughout the fleet located along the U.S. West Coast and the Pacific Ocean area. CACI's share under the subcontract is expected to be approximately $20.3 million over a three-year period.

- In September 1993, CACI was awarded a subcontract valued at $14 million with Price Waterhouse to implement a Department of Interior (DOI) program to automate DOI requisitioning, contracting and purchasing activities and develop automated interfaces to financial and other systems.

- In July 1993, CACI, as a member of an IBM team, was selected to support the Army's Sustaining Base Information Services (SBIS) program. This 10-year, $474 million program has a potential value to CACI of a least $70 million (most in the first half of the contract). The SBIS program is designed to modernize installation information management systems via a transition to an open systems environment. CACI's role includes application software development, configuration management, simulation and integrated logistics support.

- In June 1993, CACI was awarded a five-year contract with a potential value to CACI of $40 million by the Secretary of the Army. CACI will provide a range of automated data processing services over a variety of hardware and software environments.

- In May 1993, CACI was awarded a five-year subcontract by Management Systems Applications, Inc. to provide systems planning and support services for the Department of Defense, Joint Center for Flexible Computer-Integrated Manufacturing. The contract has a potential value to CACI of $9.7 million.

- In April 1993, CACI was awarded a contract by the DoJ to supply nationwide litigation support to its Environment and Natural Resources Division. CACI is one of three companies awarded contracts with a total estimated value of $223 million over a five-year period.

 - CACI's largest contract to date had been a $130 million contract awarded in mid-1991 for litigation support services for the Civil Division of the DoJ.

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- In July 1993, CACI was also awarded a contract by the DOJ to provide nationwide litigation support services to the Executive Office for United States Attorneys.

Contracts acquired with the SofTech government business include the following:

- One of SofTech's largest contracts ($50 million over five years) is its May 1993 win to support the Department of Defense Information Systems Agency's Corporate Information Management program with Systems Engineering and Technical Assistance services (CIM SETA). The contract includes migration to open systems, software reuse and integration. CACI was originally selected as a subcontractor in the CIM SETA contract under SofTech.

- SofTech also has a contract with the U.S. Army to develop RAPID (Reusable Ada Packages for Information Systems Development), a library system that allows programmers to find, evaluate and retrieve reusable software components.

- SofTech has also had several contracts with the Air Force related to logistics information systems under the Information Systems Engineering, Prototyping and Development program.

Simulation Technology:

Through CACI Products Company, Inc., the company offers simulation and modeling software products for license and as part of the company's professional service offerings.

Products are available for a range of PC and mainframe computers and include the following:

- SIMSCRIPT II.5, a simulation programming language
- MODSIM II, an object-oriented programming language
- SIMFACTORY II.5, for factory planners to study alternative plant and equipment configurations
- SIMPROCESS, a prototyping tool for business process re-engineering
- SIMOBJECT, a software framework for the reduction of time and cost in building simulation models
- NETWORK II.5, for engineers to study alternative combinations of computers and data storage devices
- COMNET II.5, for communications engineers to study wide-area networks of satellites, land lines, switching systems and protocols
- COMNET III, an object-oriented product for the prediction of local and wide-area network performance

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Marketing Systems:

CACI's marketing information products are used by clients to evaluate new sites, investigate the market potential for product offerings and determine customer profiles.

- Marketing systems include: ACORN™, a market segmentation system; InSite · USA™, a PC-based geographic information system; and Market*Master™, for database marketing.

- CACI also offers SITE®, which provides detailed demographic and applied market research data for any geographic area.

- Prophecy is a financial accounting and business software product distributed by CACI in the U.K. under license from CSP Australia.

Other Products:

CACI also uses several other products to win contract bids:

- RENovate is used to recycle applications for use with today's technology.

- CIM/CLIP is targeted toward DoD users as a life-cycle management tool for a weapon system or other items and uses the CALS standard.

- C*GATE is the commercial version of CIM/CLIP.

- SACONS was developed for the U.S. Army to automate the procurement process. Under an agreement with GE Information Services (GEIS), SACONS is available on-line. The civilian agency version is SACONS-FEDERAL.

- ADIIS (Automated Document Imaging Indexing System) quickly converts volumes of documents onto optical disks. The product was key to winning CACI's contracts with the DOJ.

Computer Hardware and Software:

CACI's Corporate Information Systems Computer Center, located in Arlington (VA), has various DEC VAX systems installed.

CACI's Advanced Technology Center (CATC), also located in Arlington, is a focused set of resources to help CACI accelerate its new business growth and internal high technology capabilities. These resources consist of a presentation room, and facilities; selected

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hardware, software and communications; and a continuously evolving database, developed internally and purchased from other vendors.

Other locations of the company use a variety of computers including DEC VAX and IBM systems in support of professional services activities. CACI's computer resources are integrated on an Ethernet-based corporate network.

Clients

Federal government clients include the DoJ, the Department of Interior, Voice of America and the Federal Aviation Administration.

A partial list of commercial clients, by operating group, follows:

- Information Systems Group: North Carolina Department of Transportation, Arizona Department of Transportation
- Marketing Systems Group: Fannie Mae, CompuServe, Litton Computer Services, AT&T, Prudential Insurance Co.
- Simulation Systems Group: BDM; Boeing; Booz, Allen & Hamilton; NCR (AT&T Global Information Solutions); Hughes Aircraft

Marketing and Sales

CACI markets its IT services through a direct sales force, focusing primarily on large federal contract capture.

CACI's software products are sold by full-time salespeople. The company has also established several distributor-type sales agreements for the sale of its products in specified overseas markets.

Alliances

Since March 1992, CACI has had an alliance with NCR (AT&T Global Information Solutions), whereby, the two companies are providing systems integration and consulting services to the commercial market.

Under an agreement with GEIS, CACI's SACONS automated procurement product is available on-line on the GEIS network.

CACI works as a prime contractor and subcontractor on various government contracts and has relationships with a number of vendors, including IBM, DEC, HP, Oracle, Unisys, Microsoft and Sun Microsystems.

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Competitors

CACI's primary competitors for government contracts include Computer Sciences Corporation, Computer Data Systems, Inc., American Management Systems, GRC International and Martin Marietta.

INPUT Assessment

CACI's strategy to cut costs and focus on IT business has been working, with record revenue and net income for the first half of fiscal 1994 and end-of-quarter backlog increasing nearly 90% over the same period in 1992.

With the acquisition of SofTech, CACI has strengthened its IT expertise in integration, software reuse and development and simulation. A key challenge for CACI is to successfully integrate SofTech's expertise into CACI's CATC and business development units and to leverage SofTech's contracts in government markets where CACI has little exposure, including the U.S. Air Force and classified U.S. Navy work.

With more than 40% of fiscal 1993's new contract awards coming from clients outside the defense industry, CACI is successfully expanding its civil agency and commercial business.

- Revenue from commercial business for the six months ending December 31, 1993 was $25.1 million, compared to $20.9 million for the same period in 1992.
- The acquisition of American Legal Systems expands CACI's litigation work to law firms and corporate legal departments.
- CACI's simulation products and marketing systems business continues to grow (revenue increased 13% during the first half of fiscal 1994). The products are used by a range of commercial clients.
- CACI has been using its SIMprocess product to help clients re-engineer their operations and as a tool to win contracts, providing CACI some leverage in the hot area of business process re-engineering.

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CACI INTERNATIONAL INC.
1700 North Moore Street
Arlington, VA 22209
(703) 841-7800

J.P. London, Chairman, President, and CEO
Public Corporation, NASDAQ
Total Employees: 2,235
Total Revenue, Fiscal Year End 6/30/90: $148,070,831
Information Services Revenue: $110 million*

*INPUT estimate

The Company

CACI International in an international organization that provides a range of professional services, proprietary software products, and systems operations services to government and commercial clients. Non-information services include market research and demographic consulting, engineering, and certain logistics services.

In October 1990, in response to disappointing results for the first quarter of fiscal 1991, CACI management promptly undertook cost reduction actions and internal reorganizations.

- Revenue for the three months ending September 30, 1990 was $35.6 million, a 3% increase over $34.6 million for the same period in 1989. Net income declined 19%, from $837,150 to $677,329.

- Results were attributed to U.S. government delays with the budget and fiscal policy and recessionary trends in private sector markets in the U.S. and Great Britain. Results were also impacted by the U.S. Navy's decision to cut back on CACI's inventory systems upgrade work at the Fleet Material Support Office.

- CACI has reorganized its operations into three strategic units as follows:

 - The Information Systems Group provides professional services, systems integration, and processing services to government and commercial clients. This unit includes logistics and engineering services and the Commercial Services division.

 - The Marketing Systems Group provides market research and demographics consulting.

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- The Simulation Systems Group provides simulation software products primarily to commercial/industrial-based markets. This unit also includes the CACI Products Company.

Fiscal 1990 revenue reached $148.1 million, a 1.3% increase over fiscal 1989 revenue of $146.1 million. Net income rose 8% from $3.7 million in fiscal 1989 to $4.0 million in fiscal 1990. A five-year financial summary follows:

CACI INTERNATIONAL INC.
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR					
ITEM	6/90	6/89	6/88	6/87	6/86	CAGR
Revenue	$148.1	$146.1	$138.2	$118.8	$98.7	11%
• Percent increase from previous year	1%	6%	16%	20%	1%	
Income before taxes	$5.8	$5.0	$5.8	$5.0	$1.5	40%
• Percent increase (decrease) from previous year	15%	(14%)	16%	241%	(68%)	
• Gross margin	4%	3%	4%	4%	2%	
Net income	$4.0	$3.7	$4.0	$2.7	$1.1	38%
• Percent increase (decrease) from previous year	8%	(8%)	48%	157%	(58%)	
• Net margin	3%	3%	3%	2%	1%	
Earnings per share	$0.35	$0.31	$0.33	$0.22	$0.09	40%
• Percent increase (decrease) from previous year	13%	(6%)	50%	144%	(57%)	

CACI's continuing marketing efforts have resulted in an increase in competitively won U.S. government business, which accounted for 71% ($104.9 million) of revenue in fiscal 1990, compared to 68% ($99.7 million) of revenue in fiscal 1989.

- CACI is experiencing project slow-downs and delays in procurement decisions due to severe pressure on U.S. defense expenditures. The company is also experiencing an increase in the costs of bidding and greater price competition, both of which are putting pressure on CACI's profit margins. CACI

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management intends to reduce costs where applicable in order to maintain a comparable level of profitability.

- During the year, CACI merged its retail, warehouse, and distribution activities into a new Commercial Systems division in order to better leverage these markets.

- The CACI Products Company was established by CACI in April 1988 to provide a corporate entity to accelerate revenue and profit growth through sales of CACI simulation products in the commercial/industrial-based markets. This unit is part of the Simulation Systems Group.

Key Products and Services

INPUT estimates approximately 70% of CACI's $110 million in fiscal 1990 information services revenue was derived from professional services, 15% from systems operations, and 15% from software products.

CACI offers products/services in the following categories:

- Advanced information systems: CACI provides professional services custom development, consulting, and litigation support.

- Engineering and logistics sciences: CACI provides engineering support services for aviation, aerospace, and marine systems and logistics-related consulting and information management system development.

- Simulation systems and modeling: CACI provides simulation software products and associated support services.

- International marketing systems: CACI assists clients in retail planning, site modeling, and customer profiling through diskettes, sourcebooks, and customized reports to clients in the U.S. and Europe.

Advanced Information Systems:

CACI has experience in information engineering, rapid prototyping, inventory management warehouse automation, systems software re-engineering, ammunition management systems, automated document storage and retrieval, fleet non-tactical ADP support, automated procurement and contracting, retail network management, insurance claims processing, relational data bases, automated litigation support, optical imaging systems, and paperless office design and systems.

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Project examples include the following:

- Supplying software re-engineering services for the U.S. Air Force's Combat Ammunition System and Base Supply System
- Providing an integrated network management system for SILO Stores
- CACI also specializes in improving inventory and warehouse management by integrating bar code software with material handling equipment.
 - CACI has provided American Airlines with an integrated system that fills emergency requests for spare parts from anywhere in the world and has them ready for shipment in less than four minutes.
 - For the Washington Metro Area Transit Authority, CACI fully automated a 50,000-item warehouse that supports Metro's 18 repair facilities.
- In the area of automated information and document management, CACI has used digital imaging to convert the City of Houston's birth and death records, and driver/vehicle registration records in Vermont, Wyoming, and Alberta (Canada).
- CACI has developed an integrated mail-forwarding system for the Canada Post Corporation.

Information services contract awards during fiscal 1990 include the following:

- A $70.8 million contract to provide continued data processing support to the U.S. Navy's Weapons Support Center
- A $12.0 million recompete to provide non-tactical support to over 600 U.S. Navy ships and Marine Corps activities
- A $9.8 million contract to provide logistics and data processing technical support to the U.S. Army
- A $9.6 million contract to provide litigation support and systems support services to antitrust attorneys (within the Department of Justice) involved in case litigation
- A $5.9 million add-on contract to provide support to the U.S. Navy's shipboard data processing systems

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Information services contract awards during fiscal 1989 include the following:

- A $39.3 million contract to provide technical support to improve the readiness of U.S. Navy shipboard equipment
- A $19.7 million contract to implement fleet support software and training for the U.S. Navy
- A $4.5 million contract to provide Montgomery Ward with a point-of-sale network management system
- A $3.9 million contract to provide training and assistance to the U.S. Navy's U.S. Atlantic Fleet submarine forces

Logistics:

Since 1985, CACI has been a key participant in the Defense Department initiatives for the Computer-aided Acquisition and Logistics System (CALS), an industry and DoD program to place all the technical data used to design, produce, acquire, and support a weapon system into a digitized, widely accessible environment.

CACI is developing the U.S. Army's Logistics Management Information System for the Office of the Deputy Chief of Staff for Logistics. CACI has also supported the Logistics Information Center in the Pentagon.

Simulation Systems and Modeling:

Through CACI Products Company, Inc., the company offers simulation and modeling software products for license and as part of the company's professional service offerings. There are currently more than 300 customers in 52 countries using CACI software products.

Products are available for a range of PC and mainframe computers and include the following:

- SIMSCRIPT II.5, a simulation programming language
- MODSIM II, a simulation programming language
- NETWORK II.5, a network performance simulator
- LANNET II.5, which predicts and analyzes the performance of local-area networks
- COMNET II.5, for studying telecommunications and wide-area networks
- SIMFACTORY II.5, a factory planning aid

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In addition to products, CACI provides custom simulation and modeling services.

- For the Air Force, CACI is distributing the TAC THUNDER war-game model and providing training for its users.
- For the FAA, CACI is distributing the SIMMOD airport model and training its users.

Marketing Systems:

CACI's marketing information products assist clients in evaluating new sites, investigating the market potential for product offerings, and determining customer profiles.

- Marketing systems include: ACORN™, a market segmentation system; InSite• USA™, a PC-based geographic information system; and Market*Master™, for data base marketing.
- The group's nearly 30,000 customers include direct mailers, financial and insurance institutions, retailers, service providers, and real estate developers.

Industry Markets

Revenue from contracts with the U.S. government amounted to approximately $104.9 million (71% of revenue), $99.7 million (68% of revenue), and $101.3 million (73% of revenue) for fiscal 1990, 1989, and 1988, respectively.

Other revenue is derived from a variety of clients in the discrete and process manufacturing, retail distribution, telecommunications, information services and other industries.

Geographic Markets

Approximately 87% of CACI's fiscal 1990 revenue was derived from the U.S. and 13% from international sources. A three-year financial summary by geographic market follows:

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CACI INTERNATIONAL
THREE-YEAR GEOGRAPHIC FINANCIAL SUMMARY

	FISCAL YEAR					
	6/90		6/89		6/88	
ITEM	$ MILLIONS	PERCENT OF TOTAL	$ MILLIONS	PERCENT OF TOTAL	$ MILLIONS	PERCENT OF TOTAL
Revenue						
- U.S.	$129.1	87%	$127.7	87%	$121.6	88%
- Foreign	19.0	13%	18.4	13%	16.6	12%
	$148.1	100%	$146.1	100%	$138.2	100%
Net income						
- U.S.	$2.0	50%	$2.0	53%	$1.9	47%
- Foreign	2.0	50%	1.7	47%	2.1	53%
	$4.0	100%	$3.7	100%	$4.0	100%

CACI has offices in 37 U.S. cities and eight offices in five countries outside the U.S.

Major U.S. offices are located in Clarendon, Crystal City, Fairfax, and Virginia Beach (VA); La Jolla (CA); Mechanicsburg (PA), New York (NY); and Washington, D.C.

The company's European operations are headquartered in London. Additional offices are located in Ireland, Scotland, England, Germany, and Canada.

Computer Hardware and Software

CACI's Corporate Information Systems Computer Center, located in Fairfax (VA), has a DEC VAX Cluster configuration installed, consisting of a VAX 6320, a MicroVAX 3300, a VAX 11/780, and a MicroVAX II.

CACI's Advanced Technology Center (CATC), also located in Fairfax, is a focused set of resources to help CACI accelerate its new business growth and internal high technology capabilities. These resources consist of a presentation room, and facilities; selected hardware, software and communications; and a continuously evolving base of data, developed internally and purchased from other vendors.

Other locations of the company use a variety of computers including DEC VAX and IBM systems in support of professional services activities. CACI's computer resources are integrated on an Ethernet-based corporate network.

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FINANCIAL UPDATE TO PROFILE DATED MARCH 1986

CACI INTERNATIONAL INC.
1700 North Moore Street
Arlington, VA 22209
(703) 841-7800

Herbert W. Karr, Chairman
J.P. London, President and CEO
Public Corporation, OTC
Total Employees: 2,500
Total Revenue, Fiscal Year End 6/30/87: $118,830,400
Information Services Revenue: $97 million*

CACI INTERNATIONAL INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	6/87	6/86	6/85	6/84	6/83
Revenue	$ 118,830	$ 98,699	$ 97,957	$ 109,846	$ 114,403
. Percent increase (decrease) from previous year	20%	1%	(11%)	(4%)	20%
Income (loss) before taxes	$ 5,013	$ 1,468	$ 4,579	$ (1,861)	$ 6,140
. Percent increase (decrease) from previous year	241%	(68%)	346%	(130%)	(9%)
Net income (loss)	$ 2,705	$ 1,054	$ 2,526	$ (939)	$ 3,724
. Percent increase (decrease) from previous year	157%	(58%)	369%	(125%)	(15%)
Earnings (loss) per share (a)	$ 0.22	$ 0.09	$ 0.27	$ (0.10)	$ 0.40
. Percent increase (decrease) from previous year	144%	(67%)	370%	(125%)	(15%)

(a) Restated to reflect a 30% stock distribution effective June 30, 1986.

- CACI management attributes revenue growth in fiscal 1987 directly to the addition of new clients.

* INPUT estimate

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- In June 1986 CACI International Inc. was formed as the parent holding company for CACI, Inc. and CACI N.V. The operations of CACI International are conducted through these two wholly owned subsidiaries.

- New contracts awarded to CACI since fiscal 1986 include the following:

 - A $49 million contract to provide litigation support services to the Department of Justice.

 - An $11 million contract to develop and install the U.S. Army's Standard Automated Contract System.

 - A $15.2 million contract to provide support for the U.S. Navy's non-tactical computer systems.

 - An $8.5 million contract to provide various support to the U.S. Navy.

 - A $12.9 million subcontract to provide application software development for the National Guard's automation modernization effort.

 - A $9 million contract to provide logistic systems management support to the U.S. Air Force.

- Revenue for the three months ending September 30, 1987 was $34 million, a 31% increase over $26 million for the same period in 1986. Net income was $990,000 compared to $455,000 for the same period a year ago.

- As of June 30, 1987, CACI has approximately 2,500 employees, of whom 1,000 were considered to be professional or technical personnel. These totals include 570 part-time employees.

SOURCE OF REVENUE

- INPUT estimates approximately 95% of CACI's estimated $97 million in information services revenue was derived from professional services. The remaining 5% was derived from software product licenses and processing services.

- INPUT estimates approximately 80% of CACI's fiscal 1987 revenue was derived from federal government agencies.

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- A three-year source of revenue summary by geographic market follows ($ thousands):

ITEM \ FISCAL YEAR	6/87	6/86	6/85
U.S.			
- Revenue	$ 106,534	$ 91,109	$ 89,112
- Net income (loss)	$ 1,384	$ (173)	$ 1,947
International			
- Revenue	$ 12,296	$ 7,590	$ 8,845
- Net income	$ 1,322	$ 1,227	$ 579
Total			
- Revenue	$ 118,830	$ 98,699	$ 97,957
- Net income	$ 2,706	$ 1,054	$ 2,526

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COMPANY PROFILE

CACI
1815 North Fort Myer Drive
Arlington, VA 22209
(703) 841-7800

Herbert W. Karr, Chairman, CACI, Inc.
J. P. London, President and CEO, CACI, Inc.
Herbert W. Karr and J. P. London, Managing Directors, CACI N.V.
Public Corporation, OTC
Total Employees: 1,535
Total Revenue, Fiscal Year End 6/30/85: $97,956,582
Computer Services Revenue: $80 Million*

THE COMPANY

- The CACI group of companies is an international organization that provides a wide range of professional services, proprietary software products, and processing services to government, commerce, and industry. Noncomputer services include market research and demographic consulting, engineering, and language training and translation services.

- CACI consists of two companies, CACI, Inc. and CACI N.V. and their respective subsidiaries.

 - CACI, Inc. was formed in 1962.

 - CACI N.V. was an inactive Netherlands subsidiary of CACI, Inc. until February 1981 when it became a separate company. CACI, Inc. shareholders were paid a dividend of one CACI N.V. share for each outstanding share of CACI, Inc. CACI, Inc. and CACI N.V. are now separate companies owned by the same shareholders.

- Fiscal 1985 revenue was $98 million, an 11% decrease from $109.8 million for fiscal 1984. Net income reached $2.5 million, compared to net losses of $939,114 a year ago. A five-year financial summary follows:

*INPUT estimate

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CACI
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	6/85	6/84	6/83	6/82	6/81
Revenue	$ 97,957	$ 109,846	$ 114,403	$ 95,659	$ 58,488
. Percent increase (decrease) from previous year	(11%)	(4%)	20%	64%	68%
Income (loss) before taxes	$ 4,579	$ (1,861)	$ 6,140	$ 6,763	$ 3,980
. Percent increase (decrease) from previous year	346%	(130%)	(9%)	70%	65%
Net income (loss)	$ 2,526	$ (939)	$ 3,724	$ 4,402	$ 2,299
. Percent increase (decrease) from previous year	369%	(125%)	(15%)	91%	70%
Earnings (loss) per share (a)	$ 0.27	$ (0.10)	$ 0.40	$ 0.47	$ 0.25
. Percent increase (decrease) from previous year	370%	(125%)	(15%)	88%	67%

- CACI management attributes fiscal 1985 and 1984 revenue declines to the continued winding down of the company's Saudi Navy business. This program accounted for approximately 12%, 24%, and 38% of total revenue for fiscal 1985, 1984, and 1983, respectively.
 - Earnings in fiscal 1984 were adversely affected by significant losses in a European subsidiary, under-utilization of professional staff, and differences between anticipated and actual costs on certain fixed price and time and materials contracts.
 - During 1984 CACI initiated steps to return to profitability, including terminating unprofitable operations, disposing of unproductive property and equipment (including closing selected European offices), consolidating operations, reducing the number of employees, and reducing top executive salaries.
- CACI is organized into more than 90 profit centers; responsibility for segment financial performance resides with each department manager.

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- Revenue for the six months ending December 31, 1985 was $47.2 million, a 4% decrease from $49 million for the same period a year ago. Net income was $471,833 compared to $1.2 million for the first six months of fiscal 1985.

- As of June 30, 1985, CACI had 1,535 employees, of whom 759 were professional or technical personnel. CACI, Inc. employed 1,500 and CACI N.V. had a staff of 35. These totals include 470 part-time employees. In addition, CACI had professional services agreements with approximately 260 outside consultants.

KEY PRODUCTS AND SERVICES

- INPUT estimates approximately 95% of CACI's estimated $80 million in computer services revenue was derived from professional services. The remaining 5% was derived from software product licenses and processing services.

- CACI's professional services include providing customized system design, development, implementation, analysis, testing, support, and training to government and commercial clients worldwide. Examples of CACI projects include the following:

 - Advanced Information Systems.

 . CACI is now the main ammunition data systems developer for the U.S. Department of Defense (DoD). During fiscal 1985 CACI won the contract for and began building the U.S. Army Headquarters' Ammunition Executive Management System.

 . For the Air Force's Combat Ammunition System, CACI designed, programmed, and tested more than 150 new inventory management programs and helped acquire 160 minicomputers and microcomputers to support the system.

 . CACI is supporting the U.S. Navy on two programs to develop ammunition management systems including the Navy's Optical Scanning Program for Conventional Ammunition and the Conventional Ammunitions Integrated Management System.

 . CACI is participating in the design, development, and implementation of an inventory control order entry system and a multi-application management information system for GTE.

 . CACI experts are continuing to build several simulation models for the DoD.

 - TAC THUNDER is the first model to combine detailed modeling of air combat, ground combat, logistics, and airlifts in a single, large-scale simulation. It is also the Air Force's most up-to-date model to simulate theatre-level employment and deployment of conventional forces.

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- Modifying an electronic warfare combat model for the Air Force brought CACI a second contract for a similar model for the White Sands Missile Range.

- CACI developed advanced models for projecting equipment requirements, training levels, and costs for Army battalions and a simulation model for Air Force recoverable parts that measures operational readiness rather than supply performance.

. During fiscal 1984 CACI was awarded a six-year $33 million contract by the U.S. Air Force Strategic Air Command to assist in the design and installation of the Automated Command and Control Executive Support System (ACCESS). This office automation system is being designed to improve the processing and flow of information on status of forces and projects, personnel, and budgets in support of the Command headquarters operations.

. CACI is designing and developing a distributed processing branch office system for the Indiana Bureau of Motor Vehicles. The system will expedite the operation of branch offices and provide motorists with one-stop driver's license, registration, and title services. CACI is building similar systems in Wyoming and Alberta (Canada).

. During fiscal 1984 CACI was awarded a multiyear requirements contract by the Civil Division of the U.S. Department of Justice to provide litigation support services.

- Logistics Sciences.

. Sparing-to-Availability Modeling: CACI provides supply support through the application of computer-based modeling to spares prediction for three U.S. Navy weapons systems: the PHALANX Close-In Weapon System, the Vertical Landing System, and the LAMPS MK III.

. During the second quarter of fiscal 1985, CACI was awarded a major subcontract to perform integrated logistics support for the communications segment of the U.S. Air Force's Consolidated Space Operations Center. The subcontract, with options, is expected to total $22 million over the next five years.

. For the Comptroller of the U.S. Army, CACI is supporting the development of an automated model to forecast recurring operating and support costs for major equipment modernization programs.

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- CACI activities in the continued support of the U.S. Navy's program to build ships of the new class of guided missile frigate (the FFG-7 Class) include providing technical support services for the Fitting-Out Management Information System (FOMIS). The project includes technical support at Bath (ME), Seattle (WA), and Long Beach (CA) where ship construction is taking place. FOMIS collects, classifies, and reports configuration data for purposes of allowance development and configuration accounting.

- Other.

 - CACI provides automated litigation support services for the U.S. Department of Justice, Civil Division. The contract, awarded in 1985, is expected to total approximately $38 million during the next five years.

 - CACI is engaged in supporting other branches of the U.S. government performing research in communications and information processing, including system and equipment design, implementation, site evaluation, design assessment, software development, and special-purpose hardware fabrication for unique, limited-quantity applications. Recent projects include software design and implementation for a security data acquisition system, field testing and evaluation of equipment signatures and attenuation properties to low-level magnetic emissions, manufacture of hybrid transmitting devices, requirements analysis for intelligence information flow, and design of special-purpose signal analysis and display systems.

- Software products available for license from CACI are shown in the exhibit.

- CACI currently provides processing services through the company's data center in Arlington. The center offers on-line access to various products, including SIMSCRIPT II.5, DBACCESS, QWICKTAB, SITE II (a demographic data base), DBAid, PINPOINT (a government contracts and grants data base, and TRANSPLEX (a surface modes transportation data base system).

INDUSTRY MARKETS

- CACI, Inc. revenue from contracts with the U.S. government amounted to approximately $77.7 million (79% of total revenue), $85.7 million (78% of total revenue), and $88.3 million (77% of total revenue) for fiscal 1985, 1984, and 1983, respectively. These amounts include revenue arising under U.S. government contracts for approximately $6.9 million, $20 million, and $36.2 million in fiscal 1985, 1984, and 1983, respectively, for which the ultimate purchasers were Middle Eastern countries (foreign military sales).

- Other revenue is derived from a variety of clients in the discrete and process manufacturing, banking and finance, medical, retail distribution, and

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EXHIBIT

CACI SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION
SIMSCRIPT 11.5®	Simulation programming language
PC SIMSCRIPT 11.5®	Simulation programming language
NETWORK 11.5®	Computer communications analysis
THE SOFTWARE BUS®	Data base management application development tool
CATALIST 11T.M.	Information retrieval system
DB AID®	IMS/CICS application development tool
CACI/CAPTURET.M.	Information management system
CACI SYSTEM FACTORYT.M.	Productivity tool
ANALYST'S WORKBENCHT.M.	Productivity tool
DESIGNER'S WORKBENCHT.M.	Design productivity tool
APPLICATIONS GENERATORST.M.	Program code generation and system documentation
HS5000	Data center job planning and control system
GEN-A-SCREENT.M.	Forms generator
MEMO	Electronic mail
SIMFACTORY®	Factory planning aid
DB ACCESS IIT.M.	System 2000 productivity aid
QWICKTABT.M.	Large data file cross tabulation

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publishing industries, as well as state and local governments (U.S. and foreign).

GEOGRAPHIC MARKETS

- A three-year financial summary by geographic market follows ($ thousands):

	6/85	6/84	6/83
U.S.			
- Revenue	$89,112	$ 97,478	$102,731
- Net income	$ 1,947	$ 791	$ 4,000
International			
- Revenue	$ 8,845	$ 12,368	$ 11,672
- Net income (loss)	$ 579	$ (1,730)	$ (276)
Total			
- Revenue	$97,957	$109,846	$114,403
- Net income (loss)	$ 2,526	$ (939)	$ 3,724

- CACI, Inc. is headquartered in Arlington. CACI N.V. is headquartered in Amsterdam. The CACI Group has offices in 25 U.S. cities and eight foreign countries as follows:

 - U.S. offices: Arlington, Alexandria, and Virginia Beach (VA); Alameda, La Jolla, Los Angeles, Newport Beach, and San Diego (CA); Boise (ID); Dayton (OH); Honolulu (HI); Houston and San Antonio (TX); Huntsville and Montgomery (AL); Lakewood (NJ); Mechanicsburg and Philadelphia (PA); Metairie and New Orleans (LA); New York City; Orange Park and Orlando (FL); St. Louis (MO); and Sturgeon Bay (WI).

 - International offices: England, The Netherlands, Belgium, Bermuda, Canada, Ireland, Sweden, and West Germany.

COMPUTER HARDWARE AND SOFTWARE

- CACI's Computer Services Center, located in Arlington, has two IBM 4341 Group 2 computers for its processing clients and internal use.

- Other locations of the company use a variety of computers including DEC VAX and IBM systems in conjunction with professional services activities.

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CACI
1815 North Fort Meyer Drive
Arlington, VA 22209
(703) 841-7800

Herbert W. Karr, Chairman
and President, CACI, Inc.
James H. Berkson, Ronald C. Steorts,
and Herbert W. Karr, Managing
Directors, CACI N.V.
Public Corporation, OTC
Total Employees: 1,659
Total Revenue, Fiscal Year End
6/30/83: $114,403,247

CACI
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	6/83	6/82	6/81	6/80	6/79
Revenue	$114,403	$95,659	$58,488	$34,728	$19,776
. Percent increase from previous year	20%	64%	68%	76%	59%
Income before taxes	$ 6,140	$ 6,763	$ 3,980	$ 2,419	$ 2,221
. Percent increase (decrease) from previous year	(9%)	70%	65%	9%	133%
Net income	$ 3,724	$ 4,402	$ 2,299	$ 1,353	$ 1,239
. Percent increase (decrease) from previous year	(15%)	91%	70%	9%	129%
Earnings per share (a)	$ 0.40	$ 0.47	$ 0.25	$ 0.15	$ 0.13
. Percent increase (decrease) from previous year	(15%)	88%	67%	15%	117%

(a) Restated to reflect an increase in the number of authorized common shares of CACI, Inc. from 1.5 million to 10 million in November 1982 and three-for-one stock splits in December 1982 and April 1983 of both CACI, Inc. and CACI N.V. common stocks.

SOURCE OF REVENUE

- Virtually all of CACI's fiscal 1983 revenue was derived from professional services. A small percentage was derived from software products, processing services, and noncomputer services.

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COMPANY HIGHLIGHT

CACI
1815 North Fort Myer Drive
Arlington, VA 22209
(703) 841-7800

Herbert W. Karr, Chairman
and President, CACI, Inc.
James H. Berkson, Ronald C. Steorts,
and Herbert W. Karr, Managing
Directors, CACI N.V.
Public Corporation, OTC
Total Employees: 1,906
Total Revenue, Fiscal Year End
6/30/82: $95,659,055

THE COMPANY

- The CACI Group of Companies is an international organization that provides a wide range of professional services, proprietary software products, and processing services to government, commerce, and industry.

- CACI consists of two companies, CACI, Inc. and CACI N.V. and their respective subsidiaries.

 - CACI, Inc. was formed in 1962.

 - CACI N.V. was an inactive Netherlands subsidiary of CACI, Inc. until February 1981 when it became a separate company. CACI, Inc. shareholders were paid a dividend of one CACI N.V. share for each outstanding share of CACI, Inc. CACI, Inc. and CACI N.V. are now separate companies owned by the same shareholders.

- CACI has achieved an average annual growth rate of 56% for the past five years. Fiscal 1982 revenue reached $95.7 million, a 64% increase over 1981 revenue of $58.5 million. 1982 income before taxes, net income, and earnings per share all increased at least 70%. A five-year financial summary follows:

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CACI
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	6/82	6/81	6/80	6/79	6/78
Revenue	$95,659	$58,488	$34,728	$19,776	$12,415
. Percent increase from previous year	64%	68%	76%	59%	21%
Income before taxes and extraordinary item	$ 6,763	$ 3,980	$ 2,419	$ 2,221	$ 954
. Percent increase from previous year	70%	65%	9%	133%	173%
Net income	$ 4,402	$ 2,299	$ 1,353	$ 1,239	$ 542
. Percent increase from previous year	91%	70%	9%	129%	92%
Earnings per share	$ 4.26	$ 2.22	$ 1.32	$ 1.20	$.53
. Percent increase from previous year	92%	68%	10%	126%	89%

- CACI's high growth rates are attributed to increased business in all segments, generated by the autonomous structure of CACI's decentralized organization. CACI has numerous profit centers, with segment financial performance being the responsibility of each department manager.

- On August 26, 1982 the Board of Directors announced their intention to declare a 200% stock dividend to be reported as a three-for-one stock split.

 - The dividend would increase the total number of authorized common shares from 1.5 million to 10 million.

- For the three months ending September 30, 1982, CACI reported revenue of $27.7 million, up 52% from $18.2 million for the same period in 1981. Net income was $1.6 million, up 130% from $697,216.

- As of June 30, 1982 CACI had 1,906 employees, of whom 1,433 were professional or technical personnel. CACI, Inc. employed 1,844 and CACI N.V. had 62. These totals include 419 part-time employees. In addition, CACI has professional services agreements with approximately 93 outside consultants.

KEY PRODUCTS AND SERVICES

- CACI's professional services provide solutions to the managerial and operational problems of government, commerce, and industry. Examples of CACI projects include:

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- Logistics.
 - Logistics support is being provided by CACI to the U.S. Navy for the reactivation of the battleships Iowa and New Jersey, including the management of warehousing operations for shipboard allowance material and the development of a computerized data bank of parts and supplies that will be incorporated into the on-board computer system.
 - The U.S. Navy, in constructing its new Ohio-class submarine, is using CACI developed software to assist in the determination of equipment and repair parts requirements.
 - CACI is providing a Canadian shipbuilder with logistics services including life cycle costing, maintenance planning, and supply support for developing the Canadian Patrol Frigate (CPF) class of helicopter-carrying vessels.
- Data base and information management.
 - To assist the U.S. Navy in managing logistics data reported by its worldwide aviation activities, CACI developed a central data bank called NALDA (the Naval Aviation Logistics Data Analysis System).
 - CACI is also assisting the U.S. Navy in improving its Conventional Ammunition Integrated Management System data base by automating inventory procedures with optical scanning.
 - The requirements analysis for a complex inventory planning system was performed by CACI for a major U.S. steel producer.
 - CACI is developing an on-line data base system for the Burton Group, a major British clothing retailer, to enhance its in-house credit card operations.
- Computer simulation and modeling.
 - CACI is improving a computer simulation model to be used by the U.S. Federal Aviation Administration to study delay problems at major airports in the U.S.
 - A computer model using national opinion polls and CACI's ACORN neighborhood classification system was developed by CACI to more accurately forecast local British elections.
- National security.
 - CACI is developing software to support a data base of historical Soviet force structure information for the U.S. intelligence community.

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- A variety of services are being provided to support and enhance the operation of military simulation systems used by the U.S. Department of Defense, including IDAHEX, a ground combat model, and COSAGE, another major combat model.

- Engineering.
 - Projects include the evaluation, testing, and design of electronic ground support equipment for aircraft.
 - CACI is assisting the U.S. Army Missile Command in formulating dynamic modeling techniques to support predictions about the effectiveness of antitank missile guidance systems.

- Energy and environment.
 - CACI is supporting Great Britain's Department of Energy and their development of computer systems to monitor various aspects of North Sea oil and gas production.
 - A data base management system is being developed for logistical, property management, and repair information for the U.S. Strategic Petroleum Reserve project.

- Demographics.
 - CACI provides timely demographic data to business and government, including market segmentation and customer targeting products and services.
 - Demographic data bases are available on 14 timesharing services in the U.S. and Europe, through CACI call-in services, or as software products for use on clients' in-house computer systems.
 - Demographic products offered are included with other CACI software products in the exhibit.

- CACI's software products are listed in the exhibit. Software is available for IBM and plug-compatible mainframes as well as for minicomputers from DEC and Wang. Recent software product offerings include the following:
 - ACORN™, a demographic tool that classifies all American and British households into about 40 distinct categories to assist in target marketing.
 - GRID-MAP™, a mapping product that displays client-selected demographic and market information by one-mile grids across any area.

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EXHIBIT

CACI SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION
CACI/SYMAP ®	Mapping system
CACI/ACCUMAP T.M.	Mapping system
SITE,® SITE II T.M.	Demographic data base
SITE PLAN T.M.	SITE II plus special reports on Welfare, Energy, Tax Base, Education, Labor and Housing
SITE - POTENTIAL ®	Marketing aid measuring sales potential
SITE - EXTENDED T.M.	Demographic data base access, +700 variables
ESTIMATES AND PROJECTIONS DATA BASE	Data for SITE II, four points in time
CENTRIEVE T.M.	Conversational census retrieval
ACORN T.M.	Classification of residential neighborhoods
GRID - MAP T.M.	Mapping by one-mile grids
DORIS T.M.	Demographic on-line information retrieval system
DECISION - GRAPHICS T.M.	Produces charts and maps
QWICK QWERY T.M.	Information analysis and report generation
SIMSCRIPT 11.5 T.M.	Compiler
QWICKTAB T.M.	Large data file cross-tabulation
DBAccess II T.M.	System 2000 user productivity aid
DB Alert T.M.	Data base productivity aid
DBAid T.M.	Data base productivity aid
CATALIST T.M.	Information retrieval system for minicomputers
CATALIST II T.M.	Information retrieval, data file update, and maintenance
ADAM T.M.	Productivity tool
GEN-A-SCREEN T.M.	Teleprocessing forms generator
PROCAP T.M.	Programmable computer-assisted educational package
SIMSTRUCT T.M.	Productivity tool
MQ/TRACK T.M.	Office information resources management

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- CATALIST T.M., a high-level, user-oriented, information retrieval system for minicomputers.

- SIMSCRIPT II.5 T.M., a compiler, adapted for use with Prime computers in 1982. SLIMSCRIPT II.5 T.M., a microcomputer version, is currently under development.

- ADAM T.M. (Automated Development of Applications Modules), a productivity tool for on-line applications development.

- SIMSTRUCT T.M., a productivity tool for model building. It is scheduled for release in fiscal 1983.

- CACI offers training programs in its areas of expertise. Classroom instruction, workshops, seminars, on-the-job training, and self-paced learning packages are available for CACI's software products, data base technology, inventory management, supply management, stock control, and computer simulation applications areas.

- In June 1982 CACI began offering 24-hour, on-line processing services through its new Data Center in Arlington.

 - The center offers systems software, productivity enhancement tools, and data base management systems.

- CACI's noncomputer services include: language translations, manufacturing aircraft electronic test cables, and supplying Sorbothane (a polyurethane material) to the U.S. government.

INDUSTRY MARKETS

- CACI, Inc. revenue from contracts with the United States government for fiscal 1982 and 1981 amounted to approximately $77.6 million and $44.1 million, respectively. These include revenue arising under U.S. government contracts for approximately $33.8 million and $15.7 million in fiscal 1982 and 1981, respectively, for which the ultimate purchasers were Middle Eastern countries (foreign military sales).

- Commercial clients come from a variety of industries.

GEOGRAPHIC MARKETS

- A three-year summary of revenue source by geographic market follows ($ thousands):

	1982	1981	1980
U. S.	$85,447	$51,177	$30,972
International	10,212	7,310	3,756
	$95,659	$58,487	$34,728

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- CACI, Inc. is headquartered in Arlington. CACI N.V. is headquartered in Amsterdam. The CACI Group has offices in 37 U.S. cities and eight foreign countries.

COMPUTER HARDWARE AND SOFTWARE

- CACI's Arlington Data Center has two IBM 4341s for its processing clients and internal use.
- Other locations of the company use a variety of computers including DEC PDP-11/70s and DEC VAX systems in conjunction with professional services activities.

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CACI, INC.
1815 North Fort Myer Drive
Arlington, VA 22209
(703) 841-7800

Dr. William W. Fain, President
Public Corporation, OTC
Total Employees: 456
Total Revenues, Fiscal Year End
6/30/79: $19,776,116

THE COMPANY

- CACI, Inc. was founded in 1962 in California as California Analysis Centers, Inc. by former RAND Corporation developers of the SIMSCRIPT programming language. Its name was subsequently shortened to CACI, Inc. and the registration transferred to Delaware. This publicly owned international corporation specializes in solving managerial and operational problems for government, commerce, and industry through the application of research, analysis, and computer software techniques.

- CACI's fiscal year 1979 ended with record revenues of $19.8 million, a 59% increase over 1978 revenues of $12.4 million. Net income soared 129% from 1978's $542,000 to $1.2 million in 1979. A complete five year summary follows:

CACI
FIVE YEAR FINANCIAL SUMMARY
($ Thousands, Except Per Share Data)
(FYE 6/30)

ITEM \ FISCAL YEAR	1979	1978	1977	1976	1975
Revenues	$19,776	$12,415	$10,245	$ 7,674	$ 5,482
. Percent increase from previous year	59%	21%	34%	40%	53%
Income before income taxes	$ 2,221	$ 954	$ 350	$ 348	$ 295
. Percent increase from previous year	133%	173%	1%	18%	21%
Net income	$ 1,239	$ 542	$ 283	$ 317	$ 242
. Percent increase (decrease) from previous year	129%	92%	(11%)	31%	89%
Net earning per share	$ 1.20	$ 0.53	$ 0.28	$ 0.31	$ 0.23
. Percent increase (decrease) from previous year	126%	89%	(10%)	35%	109%

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- CACI management reports that the growth in revenues in 1979 resulted primarily from increased levels of business with existing customers.

- CACI's full-time staff increased from 268 in 1978 to 456 in 1979. The employees are divided as follows:

-	Marketing sales	91
-	Software services/customer support	274
-	Computer operations	23
-	General and administrative	68
	Total	456

KEY PRODUCTS AND SERVICES

- Ninety-two percent of CACI's FY 1979 revenues were generated by contracted professional services, seven percent by the sale of proprietary software products and one percent from training courses and publications. The table below indicates the approximate percentages of revenues derived from CACI's business segments during the last five years:

CACI
REVENUES BY BUSINESS SEGMENT
(FYE 6/30)

ITEM \ FISCAL YEAR	1979	1978	1977	1976	1975
Project Sales	92%	90%	91%	91%	87%
CACI Proprietary Software	7	8	8	7	11
Training Courses and Publications	1	2	1	2	2
Total	100%	100%	100%	100%	100%

- The basic business of CACI is the solution of problems, primarily through the application of analysis and computer software techniques. Examples of CACI's projects include:

 - Logistics.
 - CACI is engaged in developing and testing a minicomputer-based Shipboard Data System which eventually will be installed on all 60 U.S. Navy ships of the FFG-7 class to monitor their maintenance status.
 - Logistic support is provided for the TRIDENT Submarine Program.
 - CACI is assisting the Navy in the development of a system to identify logistics support problems which might affect the opera-

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tional readiness of their aircraft. In a related contract, CACI is designing a logistics data bank for the Navy which will contain maintenance, operational, and readiness data for all Naval aircraft and support squadrons, air stations, aircraft carriers and other support facilities worldwide.

- National Security.
 - CACI participated in a joint Navy/Air Force study of the vulnerability of sea lines of communication to air attack. The project required the evaluation and modification of an Air Force computer simulation model written in CACI's SIMSCRIPT II.5® programming language.
 - To aid U.S. leaders in crisis management, CACI developed a computerized problem analyzer using a data base of the problems encountered by this country in 101 postwar international crises.
 - In a program undertaken for the U.S. Arms Control and Disarmament Agency, CACI is analyzing the perceptions of British, French, and West German leaders regarding National Security issues from 1946 to the present.
- Systems Analysis and Development.
 - CACI is active with the Department of Transportation's National Energy Transportation study which will evaluate the capabilities of the Nation's transportation network to handle the movement of critical energy commodities through the year 2000.
 - A large-scale management information system which includes a variety of data for major airports in the U.S. is being designed for the Federal Aviation Administration.
 - CACI supported the Executive Office of the President, Special Representative for Trade Negotiations, in tariff negotiations which concluded in February and included the production of graphical presentations of the effects of proposed tariff formulae.
- Data Base and Information Management.
 - The completion of the first phases of two large-scale nationwide computerized information systems, National Water Use Data System and the Map and Chart Information System, were significant accomplishments in CACI's continued support for the U.S. Geological Survey. Additional contracts with the U.S. Geological Survey include: determining the quality of the Nation's rivers, predicting future water needs, and evaluating the susceptibility of offshore drilling platforms to damage from earthquakes and other environmental hazards.
 - On the commercial side, CACI provided support in the design of a large information system to facilitte the analysis of present sales and future trends in the food market by a U.S. food manufacturer. Site analysis and selection was provided for fast food chains and retailers (apparel, shopping center groups, and supermarket chains).

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- Computer Simulation and Modeling.
 - CACI is developing a model for the U.S. Coast Guard to improve search and rescue operations and policies.
 - The Federal Aviation Administration is using CACI to enhance a model which simulates and graphically displays the contours of aircraft noise around airports throughout the world.

- Seven percent of CACI's revenues stem from the licensing of computer software. Names and a description of the products are listed in Exhibit A.

INDUSTRY MARKETS

- In FY 1979, approximately 75% of CACI's revenues were derived from the U.S. Government. The balance of revenues were from commercial customers, including food manufacturers and retail distributors.

- Of the total sales to U.S. Government agencies, defense-related contracts dominated. A comparison of revenues derived from Department of Defense (DOD) and other non-DOD sources for five previous fiscal years is shown below:

CACI
REVENUE SOURCES BY INDUSTRY
(FYE 6/30)

ITEM \ FISCAL YEAR	1979	1978	1977	1976	1975
U.S. Government					
DOD	58%	51%	55%	55%	53%
Non-DOD	17	26	22	22	19
Commercial	25	23	23	23	28
TOTAL	100%	100%	100%	100%	100%

GEOGRAPHIC MARKETS Sales to U.S. customers amounted to approximately 86% of total revenues. The remaining 14% of revenues stem from CACI international operations in England, Germany, The Netherlands, Portugal, Norway, Ireland, and Italy.

COMPUTER HARDWARE AND SOFTWARE

- CACI has equipment installed in its headquarters in Arlington, VA, in the Crystal City, VA office and the Mechanicsburg, PA office. The computers installed consist of:

 - 2 Harris 1200's.
 - 1 Digital Equipment (DEC) 11/70, running under RSX 11.

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EXHIBIT A

CACI
SOFTWARE PRODUCTS

NAME OF PRODUCT	APPLICATION	AVERAGE PRICE	YEAR FIRST OFFERED
CACI-SYMAP™	COMPUTERIZED MAPPING SYSTEM	$ 9,900.00	1974
MONITOR 2000™	PERFORMANCE MONITOR FOR SYSTEM 2000	$11,175.00	1978
REFLECT II™	SOFTWARE PERFORMANCE IMPROVEMENT TOOL	$ 5,000.00	1977
SIMSCRIPT II.5®	PROGRAMMING LANGUAGE COMPILER	$17,585.00	1968
SITE II SYSTEM™	DEMOGRAPHIC DATA SYSTEM	$54,450.00	1975
SITE PLAN™	ALL ELEMENTS OF SITE II PLUS GENERATES REPORTS ON ENERGY, TAX BASE, EDUCATION, LABOR, HOUSING, AND WELFARE.	$35,700.00	1975
SITE EXTENDED™	ALLOWS CUSTOMIZATION OF DEMOGRAPHIC REPORTS	$48,000.00	1978
SITE UPDATE™	UPDATED DEMOGRAPHIC DATA	$40,000.00	1978
QWICKTAB™	STATISTICAL ACCESS SYSTEM	$10,900.00	1978
QWICK QWERY®	INFORMATION AND REPORT GENERATION SYSTEM	$27,500.00	1968

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COMPANY HIGHLIGHT

CACI, INC.
1815 North Fort Myer Dr.
Arlington, VA 22209
(703) 841-7800

Dr. William Fain, President
Public corporation, OTC
Total employees: 230
Total revenues, fiscal year end 6/30/76: $7.7 million

THE COMPANY

- CACI, Inc. was incorporated in 1962 in California as California Analysis Centers, Inc. by former Rand Corporation founders of the SIMSCRIPT programming language. Its name was subsequently shortened to CACI, Inc., and in 1976 the registration was transferred to Delaware.

- CACI, Inc. and its various subsidiaries provide research analysis, management consulting, systems design and software development to more than 200 users in the public and private sectors.

- CACI claims to be an aggressive rapidly expanding company with growth rates approximately 40% per year since founding. A prime management objective is to maintain a 50% annual growth rate. Revenues increased 43% to $5M in the first six months of fiscal year 1977. Net profit for this period was $150,000.

- European operations, the fastest growing segment of the company, are now contributing more than 15% of total company revenues.

- CACI claims that one of its principal software packages - SIMSCRIPT- is the most widely used simulation package available with more than 150 university users.

KEY PRODUCTS AND SERVICES

- In fiscal year 1976, 91% of CACI revenues were generated by contract projects; 7% from proprietary software licensing; and for specific clients, 2% from training courses and publications.

- In 1976, CACI provided data management, logistics system analysis and support, and software development under contract. Specific projects included:

- design and implementation of simulation models for evaluating inland waterways
- urban mass transit systems
- economic and political forecasting for foreign countries
- community responses to medical emergencies
- analysis of mid-term ability of oil producing states to absorb real goods and services
- systems design for Univac mainframes

- CACI has developed and is licensing -on a non-exclusive basis- several proprietary software packages. Packages include:

 - SIMSCRIPT II.5, used to develop digital simulation models and non-simulation programs
 - SITE II, a census data utilization program
 - CACI-SYMAP, a computerized mapping system for states and counties in the continental U.S.
 - QWICK QWERY SYSTEM, a report generation and data analysis system
 - ProFeel II System, a report generator and monitor program

- Some of CACI's proprietary products are available over General Electric, Control Data, Computer Sciences, Comshare, ADP, and Tymshare networks.

APPLICATIONS CACI services and software offer general business and specialty applications.

INDUSTRY MARKETS In fiscal year 1976, 76% of CACI revenues were derived from the federal government. Remaining revenues were widely distributed.

GEOGRAPHIC MARKETS

- CACI revenues are widely distributed across the United States with some concentration in the Southeast region. Principal U.S. offices are in Virginia, Ohio, Pennsylvania, New York, and California.

- Approximately 15% of CACI's total revenues were derived from international operations, principally Europe. International offices are located in Bermuda, The Netherlands, England, Italy, West Germany, Ireland, and France.

COMPUTER HARDWARE AND SOFTWARE CACI relies primarily on external hardware to provide its services. Clients generally supply computer time for development purposes.

FINANCIAL UPDATE TO PROFILE DATED OCTOBER 1984*

CCH COMPUTAX INC.
21535 Howthorne Boulevord
Torronce, CA 90503
(213) 540-3881

Thomos G. Rolfe, President
Subsidiory of Commerce Clearing House
Totol Permonent Employees: 1,000
Totol Revenue, Fiscal Yeor End
12/31/85: $126,803,088

CCH COMPUTAX
FIVE-YEAR FINANCIAL SUMMARY
($ thousands)

ITEM \ FISCAL YEAR	1985	1984	1983	1982	1982
Revenue	$ 126,803	$ 113,962	$ 109,218	$ 104,494	$ 91,992
. Percent increase from previous yeor	11%	4%	5%	14%	37%
Operoting profit (loss)	$ 10,816	$ 12,406	$ (11,662)	$ 2,011	$ 5,215
. Percent increose (decreose) from previous yeor	(13%)	206%	(680%)	(61%)	8%

- Over three-quorters of the 1985 increose in revenue wos due to o higher average billing per tox return processed. Most of the remoinder of the increose in revenue wos ottributed to o greater number of tox returns processed os compored to 1984.
 - Increased costs ond expenses during 1985 were ottributed to higher payroll and related items and o fourth quorter provision for o loss on a computer leose tronsoction (due to o system upgrode).
- Revenues increosed in 1984 becouse of higher overoge billing per tox return processed, portiolly offset by a lesser number of returns processed ond the phasing out of the turnkey systems business (CCH Computox Systems).
 - The decreose in 1984 costs ond expenses over 1983 is due to o chorge of $15 million (pretox) ogoinst operotions to cover the estimated cost of restructuring the operotions of the turnkey systems business.
 - The provision for restructuring set up os of September 30, 1983, covers the write-offs of the remoining intangible ossets ossocioted with 1980 ocquisition costs for the minicomputer systems business (RJ Software Systems), inventory odjustments for computer hardwore, estimoted costs for continuing customer support, and write-offs of other current

*Replaces Finonciol Updote of Februory 1985

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and fixed assets. The reserve balance of $1.6 million as of December 31, 1984, represents estimated costs of continuing customer support and other associated charges.

- Revenue for the six months ending June 30, 1986 reached $106.4 million, a 12% increase over $95.3 million for the same period in 1985.

SOURCE OF REVENUE

- Virtually 100% of CCH Computax's 1985 revenue was derived from processing services sold to tax accountants and law firms. A small amount of revenue was derived from microcomputer software.

NEW PRODUCTS AND SERVICES

- CCH Computax has introduced The Command System, an integrated set of microcomputer-based software products for distributed processing of tax returns. The software runs on IBM and compatible microcomputers.

- CCH Computax offers a depletion system for the processing of oil and gas client tax returns.

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CCH COMPUTAX INC.
P.O. Box 92938
Worldway Postal Center
Los Angeles, CA 90009
(213) 540-3881

Thomas G. Rolfe, President
Subsidiary of Commerce Clearing House
Total Permanent Employees: 950
Total Revenue, Fiscal Year End
12/31/84: $113,962,305

CCH COMPUTAX
FIVE-YEAR FINANCIAL SUMMARY
($ thousands)

ITEM \ FISCAL YEAR	1984	1983	1982	1981	1980
Revenue	$ 113,962	$ 109,218	$ 104,494	$ 91,992	$ 67,369
. Percent increase from previous year	4%	5%	14%	37%	37%
Operating profit (loss)	$ 12,406	$ (11,662)	$ 2,011	$ 5,215	$ 4,812
. Percent increase (decrease) from previous year	206%	(680%)	(61%)	8%	43%

- Revenues increased in 1984 because of higher average billing per tax return processed, partially offset by a lesser number of returns processed and the phasing out of the turnkey systems business (CCH Computax Systems).

 - The decrease in 1984 costs and expenses over 1983 is due to a charge of $15 million (pretax) against operations to cover the estimated cost of restructuring the operations of the turnkey systems business.

 - The provision for restructuring set up as of September 30, 1983, covers the write-offs of the remaining intangible assets associated with 1980 acquisition costs for the minicomputer systems business (RJ Software Systems), inventory adjustments for computer hardware, estimated costs for continuing customer support, and write-offs of other current and fixed assets. The reserve balance of $1.6 million as of December 31, 1984, represents estimated costs of continuing customer support and other associated charges.

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SOURCE OF REVENUE

- Approximately 99% of CCH Computax's 1984 revenue was derived from processing services sold to tax accountants and law firms. The remaining 1% was derived from turnkey systems sales which were discontinued with the sale of CCH Computax Systems in April 1984.

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CCH COMPUTAX INC.
P.O. Box 92938
Worldway Postal Center
Los Angeles, CA 90009
(213) 540-3881

Thomas G. Rolfe, President
Subsidiary of Commerce Clearing House
Total Permanent Employees: 980
Total Revenue, Fiscal Year End
12/31/83: $109, 218,054

THE COMPANY

- The Computax programs for calculating and processing income tax returns were originally developed by Computer Sciences Corporation (CSC). After test marketing the service in 1964-65, CSC established Computax as a separate corporate entity. In August 1965, CSC sold controlling interest in Computax to Commerce Clearing House (CCH), the Chicago-based publisher of tax and business law reports. Computax was jointly held by the two corporations until 1966 when Computax became publicly held. CCH subsequently made a tender offer for the remaining public shares, and at the end of 1974 Computax became a wholly owned subsidiary of Commerce Clearing House. In January 1976, Computax changed its name to CCH Computax.

- CCH Computax is the largest provider of computerized tax return processing services to professional tax preparers (accountants, attorneys, and banking institutions). During 1983 Computax processed in excess of two million returns. Until September 1983 the company also provided turnkey systems to accountants.

- In June 1982 CCH Computax acquired the Long Island tax processing business of Automatic Data Processing, Inc. for an undisclosed amount of cash.

 - The acquisition included a tax processing center located in Garden City (NY).

 - There were approximately 75 employees at the time of the acquisition.

- 1983 revenue reached $109.2 million, a 5% increase over 1982 revenue of $104.5 million. CCH Computax had operating losses of $11.7 million in 1983 compared with operating profits of $2 million in 1982. A five-year financial summary follows:

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CCH COMPUTAX
FIVE-YEAR FINANCIAL SUMMARY
($ thousands)

ITEM \ FISCAL YEAR	1983	1982	1981	1980	1979
Revenue	$ 109,218	$ 104,494	$ 91,992	$ 67,369	$ 49,341
. Percent increase from previous year	5%	14%	37%	37%	28%
Operating profit (loss)	$ (11,662)	$ 2,011	$ 5,215	$ 4,812	$ 3,361
. Percent increase (decrease) from previous year	(680%)	(61%)	8%	43%	151%

- Revenue increased in 1983 because of a greater number of tax returns processed due to the acquisition of the additional processing center in 1982 and also because of higher average billings per tax return. A decline in revenue from the turnkey systems business offset approximately two-thirds of this increase.

 - Approximately four-fifths of the increase in total costs and expenses in 1983 is due to a charge of $15 million (pretax) against operations to cover the estimated cost of restructuring the operations of the turnkey systems business.

 - The provision for restructuring set up as of September 30, 1983, covers the write-off of the remaining intangible assets associated with 1980 acquisition costs for the minicomputer systems business (RJ Software Systems), inventory adjustments for computer hardware, estimated costs for continuing customer support, and write-offs of other current and fixed assets.

- Of the increases in 1982 revenue, about three-quarters was due to price increases in 1982 and prior years, and the remainder was due to a greater number of income tax returns processed.

 - The increase in 1982 over 1981 in costs and expenses was due to a greater number of tax returns processed and the establishment of an entirely separate sales force. In prior years CCH Computax services were marketed exclusively through the sales representatives of the parent company.

 - Also in 1982 costs were incurred for the operation of the newly acquired processing center in Garden City.

 - Operating profits declined in 1982 because of the above cost-related items and continuing losses from the turnkey systems business.

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- CCH Computax currently has 870 permanent employees. During the tax season, this number increases to about 5,000. Permanent employees are segmented as follows:

Marketing/sales	220
Software maintenance/ development and customer support	150
Processing center operations	380
General and administrative	120
	870

- Major competitors include Computer Language Research (Fast-Tax) and MCAUTO (Tymshare's Dynatax).

KEY PRODUCTS AND SERVICES

- Approximately 94% of CCH Computax's 1983 revenue was derived from processing services (97% tax processing and 3% information management and accounting for lawyers). The remaining 6% of revenue was derived from turnkey system sales (60% hardware and 40% software). A three-year summary of source of revenue follows ($ millions):

	1983	1982	1981
Processing services	$102.4	$ 92.9	$77.2
Turnkey systems	6.8	11.6	14.8
Total	$109.2	$ 104.5	$92.0

- CCH Computax's tax processing services are available to clients as follows:

 - Traditional batch processing of over two million returns was provided during 1983. A variety of parcel services is available to reduce the transit time to and from a CCH Computax processing center.

 - RJE TAX, CCH Computax's remote job entry batch service, was used to prepare over 40,000 returns during 1983.

 . Tax return data is keyed in at the accountant's office on Tele-Video or IBM PC XT and AT microcomputers, IBM System 34/36, or other IBM-compatible systems and transmitted to a CCH Computax processing center.

 . The processing center performs all necessary calculations and transmits the return back for review. Final laser-printed returns are produced at CCH Computax's local processing center and mailed to the tax preparer.

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- The Computax Interactive System (CIS) permits direct-dial access to the processing center to monitor tax return processing status and billing information. Returns can be edited and reviewed before they are printed at the local CCH Computax processing center.

- Tax processing services are provided to over 18,000 clients nationwide. Services are segmented into five major categories as follows:

 - Individual services.
 - Partnership services.
 - Corporation services.
 - Fiduciary services.
 - Deferred compensation services.

- The Individual Tax Return Service offers processing of all federal returns, Form 1040, and over 45 accompanying schedules and forms for individuals in all U.S. states and the District of Columbia. State and city returns as well as other special items are also available at separate prices.

 - Four levels of service for processing 1040 returns are available.

 . The Master Service offers the more than 45 different federal forms and schedules. Basic 1040 preparation is priced from $13.50, with additional fees for supplemental schedules and forms.

 . The Compact Service includes processing for Forms 1040ES, 1040, Schedules A, B, G, and W, and Forms 1310, 2210, 2210F, 2440, 2441, 4137, 4684, 4868, and 5695 for $20. Optional forms, schedules, and additional records are also provided for a maximum total fee of $32.

 . The Special Service includes processing for the same forms and schedules available on the Compact Service, without optional forms or schedules, for a fixed fee of $15.

 . The 1040-Basic Service provides processing for Form 1040 and Schedules B and G for $9.

 - The Multi-Tax System is an on-line individual tax planning service available from CCH Computax. By entering hypothetical items of income and expenses in a client's file and varying the combinations of one or more items, Multi-Tax can compute the tax and answer "what if" questions on potential tax results.

- The Partnership Tax Return Service processes all federal and most state partnership returns, and multiple-state returns for certain states. Tax information for Form 1065 includes Schedules, A, B, L, M, and K. Additional services are provided for Schedule K-1 and Forms 3468, 4562, 4684, 4797, 4835, 5884, 6248, 6248T, 6249, 6252, 6781, and 90-22.1.

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- Processing charges for the basic Form 1065 are $24 for federal and $6.50 for state returns. Additional charges apply for city, multiple-state or city returns, and supplemental schedules and forms.

- Corporation Tax Return Services are available to process all federal, state, and multiple-state or city returns. Calendar and fiscal year processing services are also available.

 - Processing charges for Forms 1120-W and 1120, including Schedules A, C, E, F, J, L, M-1, and M-2 are $24. Supplemental services for Schedules D and F and Forms 1118, 2220, 3468, 4138, 4255, 4562, 4626, 4684, 4797, 4835, 5884, 6249, 6252, 6765, and 90-22.1 are also available. State return processing fees start at $6.50, and those for city returns start at $5.50.

 - Consolidated Corporation Tax Return Services for subsidiary sales, carryovers, and liquidations (Forms 851 and 1122) are also available.

 - S Corporation Tax Return Services include processing of Forms 1120-W and 1120S and Schedules A, F, K, L, and M for $24. Supplemental services for Schedules D, F, and K-1, and Forms 3468, 4136, 4255, 4562, 4626, 4684, 4797, 4835, 5884, 6249, 6252, 6765, and 90-22.1 are also available. State return processing fees start at $6.50.

 - The Computax Basic Financial Statements Package, available to Partnership and Corporation Service clients, includes the Standard American Institute of Certified Public Accountants Compilation or Review Letter, Balance Sheet, Summary of Operations, Statement of Unappropriated Retained Earnings, Statement of Partner's Capital, Statement of Undistributed Taxable Earnings, Statement of Changes in Financial Position, and Statements of Components of Working Capital.

- The Fiduciary Tax Return Service processes Agency/Custodial, Grantor, Simple/Complex Trust, and Estate returns, with automatic allocations of indirect expenses against federal and state tax-exempt income.

 - Processing of Form 1041 and Schedules A and B is $10. Supplemental services for Schedules C, D, F, J, and K-1, and Forms 1116, 3468, 4136, 4255, 4562, 4684, 4797, 4798, 4835, 4952, 6249, 6251, 6252, and 90-22.1 are also available.

 - State return processing fees start at $4.25.

 - The Fiduciary Interface System for banks and trust companies allows clients to process federal and state returns directly from trust accounting system data files.

- The Deferred Compensation Service processes forms for pension or profit-sharing plans. Forms processed include 5500 (Schedules A, B, SSA, and P), 5500-C, 5500-K, 5500-R, and Worksheet A/B. Processing costs start at $4.

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- CCH Computax also provides a number of optional items to facilitate tax preparation, including the following:

 - Prelude Information Management Tools, a series of practice management reports for the tax preparer. Reports on client profiles, tax shelter opportunities, and tax planning worksheets are available.

 - Two-Year Tax Comparison Reports.

 - Preview reports, tests of accuracy, questionnaires, instruction sheets, taxpayer invoices, personalized cover letters, reminder memos, next-year depreciation projections, next-day-out service, preaddressed labels and envelopes, 1040 production logs, and custom courier service are among the other client options available.

- CCH Computax hosts training seminars in major metropolitan areas throughout the U.S. during December and January every year. The seminars are free of charge and cover all Computax services and provide an overview of new developments in tax law, changes in IRS forms, and new features of Computax programs. Seminar cassettes and workbooks are also available.

- Until September 30, 1983, the company marketed Burroughs-based turnkey systems to accountants through its subsidiary, CCH Computax Systems Inc.

 - Turnkey system revenue was $6.8 million in 1983.

 - In April 1984, the Burroughs-based portion of CCH Computax Systems was acquired by Parameter Driven Software Northwest, Inc. of Beaverton (OR). Terms of the acquisition were not disclosed.

- CT Law Technology, Inc., a subsidiary, provides batch services for office management and accounting to over 50 law firms. Revenue from this subsidiary was approximately $1.5 million in 1983.

INDUSTRY MARKETS

- CCH Computax's 1983 revenue was derived primarily from professional tax preparers such as accountants and lawyers, and from the banking industry.

GEOGRAPHIC MARKETS

- One hundred percent of CCH Computax's 1983 revenue was derived from the U.S.

- Sales offices are located in Boston, Dallas, Denver, Garden City and New York City (NY), Houston, Hunt Valley (MD), Kent (WA), La Mesa, Larkspur, and Redondo Beach (CA), Livonia (MI), Niles (IL), Norcross (GA), Overland Park (KS), Philadelphia, and Tampa.

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COMPUTER HARDWARE AND SOFTWARE

- CCH Computax's central data center, located in El Segundo (CA), has an IBM 3084 Model Q96, operating under MVS-XA.
- CCH Computax operates seven regional and ten state, county, or city processing centers nationwide, as follows:
 - Regional centers.
 - Redondo Beach (CA).
 - Burlingame (CA).
 - Englewood (NJ).
 - Garden City (NY).
 - Vienna (VA).
 - Niles (IL).
 - Wilmington (MA).
 - State, county, or city centers.
 - Phoenix.
 - Denver.
 - Fort Lauderdale (FL).
 - Norcross (GA).
 - Livonia (MI).
 - Middleburg Heights (OH).
 - Anaheim (CA).
 - Pittsburgh.
 - Kent (WA).
 - Grand Prairie (TX).
 - Cincinnati.
- Regional centers are equipped with IBM 4341 computers, operating under VS/1. The other processing centers are equipped with IBM 4331 computers, operating under DOS/VSE.
- Clients access CCH Computax's network via private leased lines, Tymnet, or Telenet.
- A London office offers tax processing services for U.S. citizens based overseas.
- Attorney processing services are provided from a separate data center in Chicago.

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CCH COMPUTAX, INC.
21250 Hawthorne Boulevard
Torrance, CA 90503-5502
(213) 543-6200

Thomas G. Rolfe, President
Wholly Owned Subsidiary of
Commerce Clearing House, Inc.
Total Employees: 2,000
Total Revenue, Fiscal Year End
12/31/89: $215,783,000

The Company

CCH Computax, Inc. provides income tax return processing services to professional tax preparers (accountants and lawyers). Tax return processing is offered for federal returns and also for all states that impose individual and corporate income taxes. The company also provides application software and educational services to accountants.

Acquisitions made by CCH Computax during 1988 and early 1989 added over 400 employees and 8,000 clients to the company. Acquisitions made by CCH Computax (all accounted for as purchases) include the following:

- During 1989, CCH Computax acquired from Interactive Financial Services, Inc. of Atlanta (GA) certain software, customer lists, and other assets.
- In January 1989, the company acquired TLS Co. of Cedar Rapids (IA). TLS provides tax processing services in Iowa and now operates as a subsidiary of CCH Computax.
- In September 1988, CCH Computax acquired Accutax Systems Inc. of Walnut Creek (CA) from Reynolds and Reynolds Company.
 - Accutax Systems provides tax processing and education services to tax return preparers and had revenue of approximately $15 million for fiscal 1988.
 - Accutax Systems now operates as a wholly owned subsidiary of CCH Computax.
- In January 1988, the company acquired Taxx, Inc. of Metairie (LA).
 - Taxx is a regional processor of income tax returns.

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- Taxx now operates as a wholly owned subsidiary of CCH Computax.

CCH Computax's 1989 revenue reached $215.8 million, a 22% increase over 1988 revenue of $177.6 million. Operating profit declined 74%, from $14.5 million in 1988 to $3.7 million in 1989. A five-year financial summary follows:

CCH COMPUTAX, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ millions)

	FISCAL YEAR					
ITEM	1989	1988	1987	1986	1985	CAGR
Revenue	$215.8	$177.6	$158.1	$147.7	$126.8	14%
• Percent increase from previous year	22%	12%	7%	16%	11%	
Operating profit	$3.7	$14.5	$19.6	$16.3	$10.8	N/A
• Percent increase (decrease) from previous year	(74%)	(26%)	20%	51%	(13%)	

Over 80% of the increase in revenue during 1989 was due to the inclusion of TLS and the first full year of the operations of Accutax Systems in CCH Computax's results for 1989. The balance of the increase is due to an increased number of tax returns processed.

- Approximately one-third of the revenue increase during 1988 was attributed to the acquisition of Taxx and Accutax Systems. The balance of revenue growth was due to price increases and an increase in the volume of tax returns processed.

Over two-thirds of the 1989 increase in costs and expenses and over one-third of the 1988 increase were due to the impact of acquired businesses. Competitive pressures--coupled with changes in technology, increased personnel, depreciation, amortization of acquired intangible assets and higher cost associated with the higher volume of tax returns processed--accounted for the balance of the increases.

- Capital expenditures for CCH Computax were approximately $11.6 million in 1989, $26.1 million in 1988, $19.8 million in 1987, and $11.1 million in 1986.

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Revenue for the three months ending March 31, 1990 reached $101.6 million, a 6% increase over $96.1 million for the same period in 1989. Operating profit rose 10%, from $30.5 million to $33.4 million.

Key Products and Services

Over 90% of CCH Computax's revenue is derived from its various tax processing services, 5% from software product licenses, and 1% from education services provided to accountants. The remaining 4% of revenue was derived from hardware sales.

CCH Computax provides batch, remote batch, and distributed tax processing services for individual, partnership, corporation, fiduciary, oil and gas, and deferred compensation returns.

- During 1988, traditional batch services were used to process approximately 50% of all returns. Various methods are used for delivery of completed batch returns, including couriers and the U.S. Postal Service.

- Remote batch and interactive processing is available through CCH Computax's Command System microcomputer software. Returns can be printed at a CCH Computax processing center or at the client's location.

Application software products provided by CCH Computax include the following:

- The Command System is an integrated set of IBM and compatible microcomputer-based software products that allow tax preparers to perform tax calculations, transmit data for calculation, rerun returns, check the processing status of returns, review billing data, and laser print returns in their offices. Over 3,100 clients use Command.

- Computax Connection products permit the tax preparer to interface microcomputer-based applications for tax planning, audits, and general ledger with taxpayer data residing on CCH Computax mainframes.

- ProSystem allows the tax preparer to interact directly with the microcomputer in order to collect the data necessary to complete the tax return.

- 1040 Solutions, acquired by CCH Computax in 1985, is a microcomputer software product for calculating and processing individual tax returns. There are currently over 4,000 installations of the product.

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- CCH Computax's Fiduciary TaxsystemS Division provides fiduciary tax processing for banks using a software bridge to the bank's trust accounting system.

CCH Computax also provides the following support and education services:

- Videotapes are available from CCH Computax for federal tax updates, new-user training, and federal supplemental programs.
- Accountant's Education Services provide a series of continuing professional education programs that meet accounting and tax professionals' CPE requirements. The courses are available throughout the U.S.

Industry Markets

One hundred percent of CCH Computax's revenue is derived from professional tax preparers, including accountants and lawyers.

Geographic Markets

One hundred percent of CCH Computax's revenue is derived from the U.S.

Sales offices are located in the metropolitan areas of Atlanta, Baltimore, Boston, Chicago, Cincinnati, Connecticut, Dallas, Denver, Detroit, Houston, Kansas City, Long Island, Los Angeles, Minneapolis, New Orleans, New York City, Norfolk, Norwalk, Philadelphia, St. Louis, San Diego, San Francisco, San Jose, Seattle, Syracuse, and Tampa.

CCH Computax currently has 25 processing centers in U.S. and in England.

- Regional centers are located in Cedar Grove (NJ); Garden City (NY); Vienna (VA); Niles (IL); Wilmington (MA); and Burlingame and Redondo Beach (CA).
- Other centers are located in Phoenix (AZ); Anaheim (CA); Denver (CO); Bridgeport (CT); Pompano Beach (FL); Norcross (GA); Louisville (KY); Livonia (MI); Edina (MN); St. Louis (MO); Middleburg Heights and Cincinnati (OH); Philadelphia and Pittsburgh (PA); Houston and Irving (TX); and Kent (WA).
- A London office offers tax processing services for U.S. citizens based overseas.

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Computer Hardware

CCH Computax's central data center, located in Torrance (CA), has an IBM 3090-400E and a 3090-200E operating under MVS/XA.

Regional processing centers are equipped with IBM 4341 computers operating under VS/1. Other processing centers are equipped with IBM 4331 computers that operate under DOS/VSE.

Clients access CCH Computax's network via leased lines, TYMNET, or a local phone call.

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CCH COMPUTAX INC.
P.O. Box 92938
Worldway Postal Center
Los Angeles, CA 90009
(213) 540-3881

Thomas G. Rolfe, President
Subsidiary of Commerce Clearing House
Total Permanent Employees: 980
Total Revenue, Fiscal Year End
12/31/83: $109, 218,054

THE COMPANY

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CCH COMPUTAX
FIVE-YEAR FINANCIAL SUMMARY
($ thousands)

ITEM \ FISCAL YEAR	1983	1982	1981	1980	1979
Revenue	$ 109,218	$ 104,494	$ 91,992	$ 67,369	$ 49,341
. Percent increase from previous year	5%	14%	37%	37%	28%
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. Percent increase (decrease) from previous year	(680%)	(61%)	8%	43%	151%

- Revenue increased in 1983 because of a greater number of tax returns processed due to the acquisition of the additional processing center in 1982 and also because of higher average billings per tax return. A decline in revenue from the turnkey systems business offset approximately two-thirds of this increase.

 - Approximately four-fifths of the increase in total costs and expenses in 1983 is due to a charge of $15 million (pretax) against operations to cover the estimated cost of restructuring the operations of the turnkey systems business.

 - The provision for restructuring set up as of September 30, 1983, covers the write-off of the remaining intangible assets associated with 1980 acquisition costs for the minicomputer systems business (RJ Software Systems), inventory adjustments for computer hardware, estimated costs for continuing customer support, and write-offs of other current and fixed assets.

- Of the increases in 1982 revenue, about three-quarters was due to price increases in 1982 and prior years, and the remainder was due to a greater number of income tax returns processed.

 - The increase in 1982 over 1981 in costs and expenses was due to a greater number of tax returns processed and the establishment of an entirely separate sales force. In prior years CCH Computax services were marketed exclusively through the sales representatives of the parent company.

 - Also in 1982 costs were incurred for the operation of the newly acquired processing center in Garden City.

 - Operating profits declined in 1982 because of the above cost-related items and continuing losses from the turnkey systems business.

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- CCH Computax currently has 870 permanent employees. During the tax season, this number increases to about 5,000. Permanent employees are segmented as follows:

Marketing/sales	220
Software maintenance/ development and customer support	150
Processing center operations	380
General and administrative	120
	870

- Major competitors include Computer Language Research (Fast-Tax) and MCAUTO (Tymshare's Dynatax).

KEY PRODUCTS AND SERVICES

- Approximately 94% of CCH Computax's 1983 revenue was derived from processing services (97% tax processing and 3% information management and accounting for lawyers). The remaining 6% of revenue was derived from turnkey system sales (60% hardware and 40% software). A three-year summary of source of revenue follows ($ millions):

	1983	1982	1981
Processing services	$102.4	$ 92.9	$77.2
Turnkey systems	6.8	11.6	14.8
Total	$109.2	$ 104.5	$92.0

- CCH Computax's tax processing services are available to clients as follows:
 - Traditional batch processing of over two million returns was provided during 1983. A variety of parcel services is available to reduce the transit time to and from a CCH Computax processing center.
 - RJE TAX, CCH Computax's remote job entry batch service, was used to prepare over 40,000 returns during 1983.
 - Tax return data is keyed in at the accountant's office on Tele-Video or IBM PC XT and AT microcomputers, IBM System 34/36, or other IBM-compatible systems and transmitted to a CCH Computax processing center.
 - The processing center performs all necessary calculations and transmits the return back for review. Final laser-printed returns are produced at CCH Computax's local processing center and mailed to the tax preparer.

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 - Individual services.
 - Partnership services.
 - Corporation services.
 - Fiduciary services.
 - Deferred compensation services.

- The Individual Tax Return Service offers processing of all federal returns, Form 1040, and over 45 accompanying schedules and forms for individuals in all U.S. states and the District of Columbia. State and city returns as well as other special items are also available at separate prices.

 - Four levels of service for processing 1040 returns are available.

 . The Master Service offers the more than 45 different federal forms and schedules. Basic 1040 preparation is priced from $13.50, with additional fees for supplemental schedules and forms.

 . The Compact Service includes processing for Forms 1040ES, 1040, Schedules A, B, G, and W, and Forms 1310, 2210, 2210F, 2440, 2441, 4137, 4684, 4868, and 5695 for $20. Optional forms, schedules, and additional records are also provided for a maximum total fee of $32.

 . The Special Service includes processing for the same forms and schedules available on the Compact Service, without optional forms or schedules, for a fixed fee of $15.

 . The 1040-Basic Service provides processing for Form 1040 and Schedules B and G for $9.

 - The Multi-Tax System is an on-line individual tax planning service available from CCH Computax. By entering hypothetical items of income and expenses in a client's file and varying the combinations of one or more items, Multi-Tax can compute the tax and answer "what if" questions on potential tax results.

- The Partnership Tax Return Service processes all federal and most state partnership returns, and multiple-state returns for certain states. Tax information for Form 1065 includes Schedules, A, B, L, M, and K. Additional services are provided for Schedule K-1 and Forms 3468, 4562, 4684, 4797, 4835, 5884, 6248, 6248T, 6249, 6252, 6781, and 90-22.1.

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- Processing charges for the basic Form 1065 are $24 for federal and $6.50 for state returns. Additional charges apply for city, multiple-state or city returns, and supplemental schedules and forms.

- Corporation Tax Return Services are available to process all federal, state, and multiple-state or city returns. Calendar and fiscal year processing services are also available.

 - Processing charges for Forms 1120-W and 1120, including Schedules A, C, E, F, J, L, M-1, and M-2 are $24. Supplemental services for Schedules D and F and Forms 1118, 2220, 3468, 4138, 4255, 4562, 4626, 4684, 4797, 4835, 5884, 6249, 6252, 6765, and 90-22.1 are also available. State return processing fees start at $6.50, and those for city returns start at $5.50.

 - Consolidated Corporation Tax Return Services for subsidiary sales, carryovers, and liquidations (Forms 851 and 1122) are also available.

 - S Corporation Tax Return Services include processing of Forms 1120-W and 1120S and Schedules A, F, K, L, and M for $24. Supplemental services for Schedules D, F, and K-1, and Forms 3468, 4136, 4255, 4562, 4626, 4684, 4797, 4835, 5884, 6249, 6252, 6765, and 90-22.1 are also available. State return processing fees start at $6.50.

 - The Computax Basic Financial Statements Package, available to Partnership and Corporation Service clients, includes the Standard American Institute of Certified Public Accountants Compilation or Review Letter, Balance Sheet, Summary of Operations, Statement of Unappropriated Retained Earnings, Statement of Partner's Capital, Statement of Undistributed Taxable Earnings, Statement of Changes in Financial Position, and Statements of Components of Working Capital.

- The Fiduciary Tax Return Service processes Agency/Custodial, Grantor, Simple/Complex Trust, and Estate returns, with automatic allocations of indirect expenses against federal and state tax-exempt income.

 - Processing of Form 1041 and Schedules A and B is $10. Supplemental services for Schedules C, D, F, J, and K-1, and Forms 1116, 3468, 4136, 4255, 4562, 4684, 4797, 4798, 4835, 4952, 6249, 6251, 6252, and 90-22.1 are also available.

 - State return processing fees start at $4.25.

 - The Fiduciary Interface System for banks and trust companies allows clients to process federal and state returns directly from trust accounting system data files.

- The Deferred Compensation Service processes forms for pension or profit-sharing plans. Forms processed include 5500 (Schedules A, B, SSA, and P), 5500-C, 5500-K, 5500-R, and Worksheet A/B. Processing costs start at $4.

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- CCH Computax also provides a number of optional items to facilitate tax preparation, including the following:

 - Prelude Information Management Tools, a series of practice management reports for the tax preparer. Reports on client profiles, tax shelter opportunities, and tax planning worksheets are available.

 - Two-Year Tax Comparison Reports.

 - Preview reports, tests of accuracy, questionnaires, instruction sheets, taxpayer invoices, personalized cover letters, reminder memos, next-year depreciation projections, next-day-out service, preaddressed labels and envelopes, 1040 production logs, and custom courier service are among the other client options available.

- CCH Computax hosts training seminars in major metropolitan areas throughout the U.S. during December and January every year. The seminars are free of charge and cover all Computax services and provide an overview of new developments in tax law, changes in IRS forms, and new features of Computax programs. Seminar cassettes and workbooks are also available.

- Until September 30, 1983, the company marketed Burroughs-based turnkey systems to accountants through its subsidiary, CCH Computax Systems Inc.

 - Turnkey system revenue was $6.8 million in 1983.

 - In April 1984, the Burroughs-based portion of CCH Computax Systems was acquired by Parameter Driven Software Northwest, Inc. of Beaverton (OR). Terms of the acquisition were not disclosed.

- CT Law Technology, Inc., a subsidiary, provides batch services for office management and accounting to over 50 law firms. Revenue from this subsidiary was approximately $1.5 million in 1983.

INDUSTRY MARKETS

- CCH Computax's 1983 revenue was derived primarily from professional tax preparers such as accountants and lawyers, and from the banking industry.

GEOGRAPHIC MARKETS

- One hundred percent of CCH Computax's 1983 revenue was derived from the U.S.

- Sales offices are located in Boston, Dallas, Denver, Garden City and New York City (NY), Houston, Hunt Valley (MD), Kent (WA), La Mesa, Larkspur, and Redondo Beach (CA), Livonia (MI), Niles (IL), Norcross (GA), Overland Park (KS), Philadelphia, and Tampa.

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COMPUTER HARDWARE AND SOFTWARE

- CCH Computax's central data center, located in El Segundo (CA), has an IBM 3084 Model Q96, operating under MVS-XA.
- CCH Computax operates seven regional and ten state, county, or city processing centers nationwide, as follows:
 - Regional centers.
 - Redondo Beach (CA).
 - Burlingame (CA).
 - Englewood (NJ).
 - Garden City (NY).
 - Vienna (VA).
 - Niles (IL).
 - Wilmington (MA).
 - State, county, or city centers.
 - Phoenix.
 - Denver.
 - Fort Lauderdale (FL).
 - Norcross (GA).
 - Livonia (MI).
 - Middleburg Heights (OH).
 - Anaheim (CA).
 - Pittsburgh.
 - Kent (WA).
 - Grand Prairie (TX).
 - Cincinnati.
- Regional centers are equipped with IBM 4341 computers, operating under VS/1. The other processing centers are equipped with IBM 4331 computers, operating under DOS/VSE.
- Clients access CCH Computax's network via private leased lines, Tymnet, or Telenet.
- A London office offers tax processing services for U.S. citizens based overseas.
- Attorney processing services are provided from a separate data center in Chicago.

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Carol White, Mgr
Sales Promotion
Gary Gordon Computer Systems

COMPANY PROFILE

CCH COMPUTAX INC.
601 N. Nash Street
El Segundo, CA 90245
(213) 772-2502

Thomas G. Rolfe, President
Subsidiary of Commerce Clearing House
Total Permanent Employees: 423
Total Revenues, Fiscal Year End 12/80: $67,369,000

THE COMPANY

- The Computax programs for calculating and processing income tax returns were orginally developed by Computer Sciences Corporation (CSC). After test marketing the service in 1964-65, CSC established Computax as a separate corporate entity. In August 1965, CSC sold controlling interest in Computax to Commerce Clearing House (CCH), the Chicago based publisher of tax and business law reporters. Computax was jointly held by the two corporations until 1966 when Computax become publicly held. CCH subsequently made a tender offer for the remaining public shares and at the end of 1974, Computax became a wholly owned subsidiary of Commerce Clearing House. In January 1976, Computax changed its name to CCH Computax.

- Computax is the largest provider of computerized tax return processing services to professional tax preparers (accountants, attorneys and banking institutions). During 1980, Computax processed in excess of 1.4 million returns.

- Revenues in 1980 were $67.4 million, a 37% increase over 1979 revenues of $49.3 million. A five-year financial summary follows:

COMPUTAX
FIVE-YEAR FINANCIAL SUMMARY
($ Thousands)

ITEM \ FISCAL YEAR	1980	1979	1978	1977	1976
Total revenues	$67,369	$49,340	$38,548	$32,568	$26,518
. Percent increase from previous year	37%	28%	18%	23%	8%

- Essentially all of the revenue increase in 1979 and slightly over one-half of the 1980 increase is due to greater numbers of income tax returns processed and to higher average billings per tax return. This includes the effect of product enhancements and price increases in 1980 and prior years. The balance of the

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1980 increase is attributed to revenues received from new products and services, and from several recent acquisitions.

- In January 1980, Computax acquired the Multi-Tax Division of United Computing systems, Inc. for an undisclosed amount. Based in the Boston area, Multi-Tax provides on-line, individual tax planning and tax preparation services for tax professionals.

- In April 1980, RJ Software Systems was acquired for an undisclosed amount. RJ Software provides minicomputer based systems for accountants.

- Professional Software Consultants Inc. (PSCI), Norfolk, Virginia, was acquired in May 1980. PSCI offers software products (similar to RJ Software) for accountants.

- In July 1980, CT Law Technology Inc. (CTLTI) became a subsidiary of Computax Systems. Formerly a subsidiary of CT Corporation, another subsidiary of Commerce Clearing House, CTLTI offers a computerized timekeeping, fee billing, disbursements billing and management control program for law firms on a service bureau basis.

- Three of the acquisitions (RJ Software, Professional Software Consultants and CT Law Technology) have been formed into a new subsidiary called CCH Computax Systems, Inc. Multi-Tax operates as a division of Computax.

- Computax currently has 423 permanent employees. During the tax season, this number increases to about 5,000. Permanent employees are divided as follows:

- Software maintenance/development and customer support	166
- Processing center operations	164
- General and administrative	93
	423

- The parent of Computax, CCH, is the exclusive marketing agent for the company's tax services. More than 500 sales representatives in 29 divisions provide Computax with nationwide coverage for its services.

- The largest competitors of Computax are Tymshare and Fast-Tax.

KEY PRODUCTS AND SERVICES

- Tax services offered by Computax are segmented into seven major categories:

 - Individual Services.
 - Partnership Services.
 - Corporation Services.
 - Fiduciary Services.

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- Deferred Compensation Service.
- Small Business Corporation (1120-S).
- Consolidated Corporation.

- The Computax Individual Tax Service processes all Federal returns, Form 1040 (Schedules A-G, R, RP, SE and TC), 1040-ES, and 1040X. Twenty-eight accompanying forms to the basic 1040 are processed for individuals in all U.S. states and the District of Columbia.

 - Individual state income tax returns are prepared for all states and the District of Columbia with the exception of Florida, Nevada, South Dakota, Texas, Washington and Wyoming, which have no income tax.

 - There are three price and service levels for processing 1040 returns:

 . The low level is called the Special Service. The Federal form is processed for a flat fee of $9.75.
 . The middle level, or Compact Service, includes processing Federal and State forms and has a base price of $15.25.
 . The upper level, Master Service, has a variable price schedule starting at $7.75.

 - Customers receive the completed 1040 Forms within 48-72 hours from the time the form is received by a Computax Center.

- The Partnership Service processes all Federal and most state income tax returns. Tax information for Form 1065 includes schedules A, D, H through N, F (1040) and K-1. Additional services are provided for forms 4797, 5884, and 90-22.1.

 - Processing charges for the basic Form 1065 are $18.00 for Federal and $6.00 for each State return. Additional charges apply for city returns and supplemental schedules and forms.

- Corporation Income Tax Services are available to process all Federal and State corporation returns. Calendar year, fiscal year, and multiple-state processing services are available.

 - Preparers are charged $18.00 for the Federal 1120 Form and $6.00 for the state form. Additional fees are charged for multiple state returns, city returns, and supplemental schedules.

 - Services include processing for Forms 1120-W and 1120, Schedules A, C, D, E, F, I, J, K, L, M-1 and M-2. Supplemental services for Forms 1118, 2220, 3468, 4136, 4255, 4562, 4626, 4797, 5884, and 90.22.1 are also provided.

- Fiduciary Services are provided for Form 1041, Schedules A through J, and K-1. In addition, processing is available for Forms 1116, 3468, 4136, 4255, 4626, 4797, 4798, 4835, 5884, and 90.22.1.

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- Preparers using the Fiduciary Service are charged a base price of $7.00 for the Federal Form (1041) and $4.00 for the State return, plus supplemental form processing charges.

- Deferred Compensation Services process forms for pension or profit-sharing plans and ERISA. Forms processed include 5500, 5500-C, 5500-G, 5500-K (Schedules A, B, and SSA), and Worksheets A and B.

 - Processing costs for deferred compensation are billed at a base charge of $4.00 plus supplemental form processing charges.

- The Small Business Corporation Service handles processing for Forms 1120 S (Schedules A, D, E, F, K, K-1, L, M-1 and M-2), 4136, 4562, 4626, 4797, 5884, and 90.22.1.

 - Processing costs are approximately $18.00 for the basic form.

- The Consolidated Corporation Service processes Forms 851, 1122, 1120 and all related forms and schedules. Price for the basic Federal Consolidated Corporation Return is $12.00. Additional computational charges may apply.

- Computax also offers EXPAT, a service for processing Expatriate returns (Forms 1116 and 2555). Developed in conjunction with a major international accounting firm, EXPAT is marketed both domestically and internationally.

- The tax planning service offered through Multi-Tax allows the entry of hypothetical items of income and expenses in a clients file. By varying one or a combination of items, Multi-Tax computes the tax and answers "what if" questions on potential tax results. It can accomodate detailed data and complex calculations, such as depreciation and installment sales.

 - In addition to Federal individual tax planning, Multi-Tax offers state programs for California, Connecticut, Illinois, Maryland, Massachusetts, New Hampshire, New Jersey, New York (state and city), Vermont and Virginia.

- CCH Computax Systems Inc., a relatively new subsidiary, markets turnkey minicomputer systems to accountants and provides time and billing services to legal firms.

 - Turnkey systems for accountants are sold with Burroughs B Series equipment (B80s, 800s, 90s and 900s) and are priced between $20,000 and $70,000 for both hardware and software. Over 2,500 systems are installed.

 . Applications available include:

 - 1040/State Tax.
 - Client Write-up (General Ledger).
 - Payroll Check Writing.

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- Asset Depreciation.
- Loan Amortization.
- Tax Planning.
- Professional Time, Charges and Billing.
- Accounts Payable/Receivable.
- Financial Forecaster.
- Random Number Generator.

. Two versions of the accountant system are available:

- Alpha, for operation under Burroughs' ACCESS operating system.
- Beta, for operation under Burroughs' CMS operating system.

- Batch processing services for attorneys are offered from data centers in Chicago and New York. Principle applications are time and billing services.

INDUSTRY MARKETS Computax's revenues are derived from accountants, attorneys, and banking institutions.

GEOGRAPHIC MARKETS About 98% of Computax's 1980 revenues were derived from the U.S., and 2% from Canada.

COMPUTER HARDWARE

- Computax operates six regional and eleven state and city processing centers in the U.S.

 - Regional centers are in:

 . Los Angeles (Redondo Beach, CA).
 . San Francisco (Burlingame, CA).
 . Chicago, IL.
 . Boston, MA.
 . Englewood, NJ.
 . Washington, DC (Vienna, VA).

 - State and city centers are in:

 . Seattle (Kent, WA).
 . Phoenix, AZ.
 . Ft. Lauderdale, FL.
 . Denver, CO.
 . Atlanta (Decatur, GA).
 . Louisville, KY.

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- Detroit (Livonia, MI).
- Cleveland (Brookpark, OH).
- Orange County, CA.
- Pittsburgh, PA.
- Dallas (Grand Prairie, TX).

- The corporate computer facility supports a telecommunications network connecting all processing centers. Five regional centers are equipped with IBM computers (370s and 4341s). One regional and all the state and city centers operate in an on-line mode to the 370/168s at headquarters.

- In January 1981, Xerox 9700 laser printers were installed in all regional tax processing centers.

- A London office offers tax processing services for U.S. citizens based overseas.

- Until the end of 1980, Computax operated a Canadian subsidiary for processing Canadian and American tax returns. In 1981, Computax Canada Ltd. became a subsidiary of CCH Canada Ltd.

- Attorney processing services are provided from data centers in Chicago and New York. IBM 360/370 equipment is installed.

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CCH COMPUTAX, INC.
21250 Hawthorne Boulevard
Torrance, CA 90503-5502
((213) 543-6200

Thomas G. Rolfe, President
Wholly Owned Subsidiary of
Commerce Clearing House, Inc.
Total Employees: 2,000
Total Revenue, Fiscal Year End
12/31/88: $177,575,000

The Company

CCH Computax, Inc. provides income tax return processing services to professional tax preparers (accountants and lawyers). Tax return processing is offered for federal returns and also for all states that impose individual and corporate income taxes. The company also provides application software and educational services to accountants.

Acquisitions made by CCH Computax during 1988 and early 1989 added over 400 employees and 8,000 clients to the company. Acquisitions made by CCH Computax (all accounted for as purchases) include the following:

- In January 1989, the company acquired TLS, Co. of Cedar Rapids (IA). TLS provides tax processing services in the Iowa area and now operates as a subsidiary of CCH Computax.
- In September 1988, CCH Computax acquired Accutax Systems Inc. of Walnut Creek (CA) from Reynolds and Reynolds Company.
 - Accutax Systems provides tax processing and education services to tax return preparers and had revenue of approximately $15 million for fiscal 1988.
 - Accutax Systems now operates as a wholly owned subsidiary of CCH Computax.
- In January 1988, the company acquired Taxx, Inc. of Metarie (LA).
 - Taxx is a regional processor of income tax returns.
 - Taxx now operates as a wholly owned subsidiary of CCH Computax.

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CCH Computax's 1988 revenue reached $177.6 million, a 12% increase over 1987 revenue of $158.1 million. Operating profit declined 26%, from $19.6 million in 1987 to $14.5 million in 1988. A five-year financial summary follows:

CCH COMPUTAX, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ millions)

	FISCAL YEAR				
ITEM	1988	1987	1986	1985	1984
Revenue	$177.6	$158.1	$147.7	$126.8	$114.0
• Percent increase from previous year	12%	7%	16%	11%	4%
Operating profit	$14.5	$19.6	$16.3	$10.8	$12.4
• Percent increase (decrease) from previous year	(26%)	20%	51%	(13%)	206%

Approximately one-third of the revenue increase during 1988 was attributed to the acquisition of Taxx and Accutax Systems. The balance of revenue growth was due to price increases and an increase in the volume of tax returns processed. A higher volume of tax returns processed is responsible for the 1987 increase in revenue.

Declines in operating profit during 1988 were attributed to the impact of acquisitions and the investment in new facilities and computer equipment made during 1987 and 1988.

- Well over one-third of the 1988 increase in costs and expenses was due to the acquisition of Taxx and Accutax Systems, with the balance of the increase due to payroll and payroll-related items, depreciation and amortization, and higher costs associated with the higher volumes of tax returns processed.

- Capital expenditures for CCH Computax were approximately $26.1 million in 1988, $19.8 million in 1987, and $11.1 million in 1986.

Revenue for the nine months ending September 30, 1989 reached $184 million, a 22% increase over $150.4 million for the same period in 1988. Operating earnings were $24.7 million, compared to $31 million for the same period a year ago.

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Key Products and Services

Over 90% of CCH Computax's revenue is derived from its various tax processing services, 5% from software product licenses, and 1% from education services provided to accountants. The remaining 4% of revenue was derived from hardware sales.

CCH Computax provides batch, remote batch, and distributed tax processing services for individual, partnership, corporation, fiduciary, oil and gas, and deferred compensation returns.

- During 1988, traditional batch services were used to process approximately 50% of all returns. Various methods are used for delivery of completed batch returns, including couriers and the U.S. Postal Service.
- Remote batch and interactive processing is available through CCH Computax's Command System microcomputer software. Returns can be printed at a CCH Computax processing center or at the client's location.
- During 1988, CCH Computax provided its services processing to over 21,000 clients nationwide.

Application software products provided by CCH Computax include the following:

- The Command System is an integrated set of IBM and compatible microcomputer-based software products that allow tax preparers to perform tax calculations, transmit data for calculation, rerun returns, check the processing status of returns, review billing data, and laser print returns in their offices. Over 3,100 clients use Command.
- Computax Connection products permit the tax preparer to interface microcomputer-based applications for tax planning, audits, and general ledger with taxpayer data residing on CCH Computax mainframes.
- ProSystem allows the tax preparer to interact directly with the microcomputer in order to collect the data necessary to complete the tax return.
- 1040 Solutions, acquired by CCH Computax in 1985, is a microcomputer software product for calculating and processing individual tax returns. There are currently over 4,000 installations of the product.
- CCH Computax's Fiduciary TaxsystemS Division, acquired from Fiduciary Special Services, Inc. during 1986, provides

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fiduciary tax processing for banks using a software bridge to the bank's trust accounting system.

CCH Computax also provides the following support and education services:

- Videotapes are available from CCH Computax for federal tax updates, new user training, and federal supplemental programs.
- Accountant's Education Services provide a series of continuing professional education programs that meet accounting and tax professionals' CPE requirements. The courses are available throughout the U.S.

Industry Markets

One hundred percent of CCH Computax's revenue is derived from professional tax preparers, including accountants and lawyers.

Geographic Markets

One hundred percent of CCH Computax's revenue is derived from the U.S.

Sales offices are located in the metropolitan areas of Atlanta, Baltimore, Boston, Chicago, Cincinnati, Connecticut, Dallas, Denver, Detroit, Houston, Kansas City, Long Island, Los Angeles, Minneapolis, New Orleans, New York City, Norfolk, Norwalk, Philadelphia, St. Louis, San Diego, San Francisco, San Jose, Seattle, Syracuse, and Tampa.

CCH Computax currently has 25 processing centers located across the U.S. and in England.

- Regional centers are located in Cedar Grove (NJ); Garden City (NY); Vienna (VA); Niles (IL); Wilmington (MA); and Burlingame and Redondo Beach (CA).
- Other centers are located in Phoenix (AZ); Anaheim (CA); Denver (CO); Bridgeport (CT); Pompano Beach (FL); Norcross (GA); Louisville (KY); Livonia (MI); Edina (MN); St. Louis (MO); Middleburg Heights and Cincinnati (OH); Philadelphia and Pittsburgh (PA); Houston and Irving (TX); and Kent (WA).
- A London office offers tax processing services for U.S. citizens based overseas.

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Computer Hardware

CCH Computax's central data center, located in Torrance (CA), has an IBM 3090-400E and a 3090-200E operating under MVS/XA.

Regional processing centers are equipped with IBM 4341 computers, operating under VS/1. Other processing centers are equipped with IBM 4331 computers, operating under DOS/VSE.

Clients access CCH Computax's network via leased lines, TYMNET, or a local phone call.

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Carol White

COMPANY HIGHLIGHT

CCH COMPUTAX, INC.
601 N. Nash Street
El Segundo, CA 90245
(213) 772-2502

Thomas G. Rolfe, President
Subsidiary of Commerce Clearing House
Total Permanent Employees: 364
Total Revenues, Fiscal Year End 12/78: $38,825,000

THE COMPANY

- The Computax programs for calculating and processing income tax returns were originally developed by Computer Sciences Corporation (CSC). After test marketing the service in 1964-65, CSC established Computax as a separate corporate entity. In August 1965, CSC sold controlling interest in Computax to Commerce Clearing House (CCH), the Chicago based publisher of tax and business law reporters. Computax was jointly held by the two corporations until 1966 when Computax became publically held. CCH subsequently made a tender offer for the remaining public shares and at the end of 1974 Computax became a wholly owned subsidiary of Commerce Clearing House. In January 1976, Computax changed its name to CCH Computax.

- Computax provides computerized tax return processing services to professional tax preparers: accountants, attorneys, and banking institutions. Computax does not market its services directly to individual taxpayers. Services provided include data entry, calculation, processing, and the printing of tax forms.

- Computax's revenues in 1978 were $38.8 million, an 18% increase over 1977 revenues of $32.8 million. A five year financial summary follows:

COMPUTAX
FIVE YEAR FINANCIAL SUMMARY
($ Thousands)

ITEM \ FISCAL YEAR	1978	1977	1976	1975	1974
Total revenues	$38,825	$32,812	$26,726	$24,742	$20,215
. Percent increase from previous year	18%	23%	8%	22%	12%

- Computax currently has 364 permanent employees. During the tax season this number increases to approximately 5,000. Permanent employees are divided as follows:

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- Software maintenance/development and customer support	87
- Processing center operations	54
- General and administrative	223
Total	364

- The parent of Computax, CCH, is the exclusive marketing agent for the company's tax services. More than 500 sales representatives in 27 Divisions provide Computax with nationwide coverage for its services.

- Computax is the largest U.S tax return processing company. During 1979 Computax processed in excess of 1.3 million returns.

KEY PRODUCTS AND SERVICES

- One hundred percent of Computax's revenues are derived from providing processing services, the majority of which are batch oriented services.

- Tax services are segmented into seven major categories:

 - Individual Services.
 - Partnership Services.
 - Corporation Services.
 - Fiduciary Services.
 - Deferred Compensation Service.
 - Small Business Corporation (1120-S).
 - Consolidated Corporation.

- The Computax Individual Tax Services process all Federal returns, Form 1040 (Schedules A-G, R, RP, SE and TC), 1040-ES, and 1040X. Twenty-eight accompanying forms to the basic 1040 are processed for individuals in all U.S. states and the District of Columbia.

 - Individual state income tax returns are prepared for all states and the District of Columbia with the exception of Florida, Nevada, South Dakota, Texas, Washington, and Wyoming.
 - There are three price and service levels for processing 1040 returns.
 - The low level is called the Special Service. The Federal form is processed for a flat fee of $7.75.
 - The middle level, or Compact Service, includes processing of Federal and State forms and has a base price of $12.25.
 - The upper level Master Service includes a variable price schedule starting at a base price of $5.00 plus additional forms, schedules, and computations.
 - Most clients receive the completed 1040 Forms within 48-72 hours from the time the form is received by a Computax Center.

o The Partnership Service processes all federal and most state income tax returns. Tax information for Form 1065 includes schedules A, D, and H

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through N, F (1040) and K-1. Additional services are provided for Forms 4797, 5884, and 90-22.1.

- Processing charges for the basic Form 1065 are $14.00 for Federal and $5.50 for each State return. Additional charges apply for city returns and supplemental schedules and forms.

- Corporation Income Tax Services are available to process all Federal and State corporation returns. Calendar year, fiscal year, and multiple-state processing services are available.

 - Firms are charged $14.00 for the Federal 1120 Form and $5.50 for the state form. Additional fees are charged for multiple state returns, city returns, and supplemental schedules.
 - Services include processing for Forms 1120-W and 1120, Schedules A, C, D, E, F, I, J , K, L, and M-1 and M-2. Supplemental services for Forms 1118, 2220, 3468, 4136, 4255, 4562, 4626, 4797, 5884, and 90-22.1 are also provided.

- Fiduciary Services are provided for Form 1041, Schedules A through J, and K-1. In addition, processing is available for Forms 1116, 3468, 4136, 4255, 4626, 4797, 4798, 4835, 5884, and 90-22.1.

 - Companies using the Fiduciary Service are charged a base price of $5.00 for the Federal Form (1041) and $3.50 for the State return. Supplemental form processing charges are approximately $.75 to $1.00 each.

- Deferred Compensation Services process forms for pension or profit-sharing plans and ERISA. Forms processed include 5500, 5500-C, 5500-G, 5500-K (Schedules A, B, AND SSA), and Worksheets A and B.

 - Processing costs for deferred compensation are billed at a base charge of $3.00 plus $1.00 for each additional form or schedule.

- The Small Business Corporation Service handles processing for Forms 1120 S (Schedules A, D, E, F, , K, K-1, L, and M-1 and M-2), 4136, 4562, 4626, 4797, 5884, and 90-22.1.

 - Processing costs are approximately $14.00 for the basic form and $1.00 for each additional schedule or form.

- The Consolidated Corporation Service processes Forms 851, 1122, and 1120 and all related forms and schedules. Price for the basic Federal Consolidated Corporation Return is $10.00 consolidating charge (in addition to regular corporation prices). Additional computational charges may apply.

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- In May 1979, Computax introduced EXPAT, a service for processing Expatriate returns (Forms 1116 and 2555). Developed in conjunction with a major international accounting firm, EXPAT is marketed both domestically and internationally.

- In Computax's Western Region, a system for the analysis and administration of corporate pension and profit sharing plans is being marketed. National market coverage for this service will start in 1980.

- New services to meet the requirements of accounting and law firms which could potentially migrate to small computers for standalone or distributed processing systems are constantly being investigated by Computax. New application software for on-line and remote job entry systems is also evaluated.

INDUSTRY MARKETS Computax's revenues are derived from accountants, from attorneys, and from banking institutions.

GEOGRAPHIC MARKETS Most of Computax's revenues are derived from the U.S. A small percentage stems from Canadian and European sources.

COMPUTER HARDWARE

- Computax operates six regional processing centers and eleven state and city centers in the U.S.

 - Regional centers are in:
 - Los Angeles (Redondo Beach, CA).
 - San Francisco (Burlingame, CA).
 - Chicago, IL.
 - Boston, MA.
 - Englewood, NJ.
 - Washington, DC (Vienna, VA).
 - State and city centers are in:
 - Seattle (Kent, WA).
 - Phoenix, AZ.
 - Ft. Lauderdale, FL.
 - Denver, CO.
 - Atlanta (Decatur, GA).
 - Louisville, KY.
 - Detroit (Livonia, MI).
 - Cleveland (Brookpark, OH).
 - Orange County, CA.
 - Pittsburgh, PA.
 - Dallas (Grand Prairie, TX).

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- The corporate processing facility located in Los Angeles maintains two IBM 370/168s. The other five regional centers are equipped with IBM 370/148s. Two regions and all the state and city centers operate in an on-line mode to the 370/168s at headquarters.

- A London processing center, opened in 1979, will process 1980 tax returns for Computax's expanding European market.

- Computax Canada, Ltd., a wholly owned subsidiary, is now in its sixth year of operation. Canadian and American tax returns are processed from centers located in Vancouver, Edmonton, Calgary, Regina, Winnipeg, Toronto, and Halifax.

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COMPANY PROFILE

CCX NETWORK, INC.
301 Industrial Boulevard
Conway, AR 72032
(501) 329-6836

Charles D. Morgan, Jr., Chairman
Phil Carter, President
Public Corporation, OTC
Total Employees: 268
Total Revenue, Fiscal Year End 9/30/85: $14,328,000

THE COMPANY

- CCX Network, Inc., founded in 1969 as Demographics, Inc., was reincorporated in Delaware in 1983. The company provides processing services for targeted marketing including: network access to name and address lists; data base resources; and list enhancement, segmentation, and analysis services. During fiscal 1984 CCX became a value-added dealer for IBM PCs and now markets these microcomputers with its proprietary list processing application software. CCX clients include direct marketing organizations that use direct mail and telephone sales systems, list owners, and list brokers.

- In December 1983 CCX made an initial public offering of 412,500 shares of common stock. Net proceeds of approximately $4 million were used to retire debt and for working capital.

- Fiscal 1985 revenue reached $14.3 million, a 30% increase over fiscal 1984 revenue of nearly $11 million. Net income rose 8% from $1.1 million in fiscal 1984 to $1.2 million in fiscal 1985. A five-year financial summary follows:

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CCX NETWORK, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM / FISCAL YEAR	9/85	9/84	9/83	9/82	9/81
Revenue	$ 14,328	$ 10,996	$ 7,540	$ 5,957	$ 5,044
. Percent increase from previous year	30%	46%	27%	18%	54%
Income before taxes	$ 1,447	$ 1,459	$ 881	$ 308	$ 560
. Percent increase (decrease) from previous year	(1%)	66%	186%	(45%)	318%
Net income	$ 1,184	$ 1,092	$ 663	$ 223	$ 450
. Percent increase (decrease) from previous year	8%	65%	197%	(50%)	202%
Earnings per share	$ 0.57	$ 0.55	$ 0.40	$ 0.13	$ 0.27
. Percent increase (decrease) from previous year	4%	38%	208%	(52%)	200%

- CCX management attributes revenue growth in fiscal 1985 and 1984 directly to the addition of new clients. Increased expenditures reflect the following:
 - Costs of operations increased 32% from fiscal 1984 to 1985 and 49% from 1983 to 1984. Higher personnel and related expenses were the main components of the increase in both periods.
 - Sales and marketing expenses increased 31% from fiscal 1984 to 1985 and 26% from 1983 to 1984 as a result of additional personnel and increased advertising of the company's services and software products.
 - Research and development expenditures were approximately $1.2 million (8% of revenue) in fiscal 1985, $767,000 (7% of revenue) in fiscal 1984, and $540,000 (7% of revenue) in fiscal 1983.
 - General and administrative expenses increased 21% from fiscal 1984 to 1985 and 65% from 1983 to 1984, reflecting primarily higher personnel costs.
- Revenue for the three months ending December 31, 1985 was $4.6 million, a 48% increase over $3.1 million for the same period in 1984. Net income was $448,000 compared to $242,000 for the same quarter in 1984.

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- As of September 30, 1985, CCX had approximately 268 employees. The company currently has 275 employees.

- CCX competitors include Weland Services, Inc., Epsilon Data Management, Inc., M/A/R/C, Inc., and Metromail Corporation.

KEY PRODUCTS AND SERVICES

- Approximately 92% ($13.1 million) of CCX's fiscal 1985 revenue was derived from remote batch processing services related to targeted marketing applications. Seven percent ($1 million) of revenue was derived from IBM PC-based turnkey system sales. The remaining 1% ($0.2 million) was derived from terminal leases associated with the company's processing services.

- Processing services are provided to clients via CCX's Direct Marketing Network which is used to access data bases of over 20,000 lists owned by others containing more than 900 million names and addresses.

 - CCX services provide clients with marketing tools to analyze and segment large amounts of data on past customers and known marketplace prospects in order to identify groups or individuals with desired purchasing characteristics.

 - Each client accesses the on-line network via a terminal or IBM PC installed at the client site to obtain listings or create new lists of names that meet the geographic, demographic, psychographic, and previous response selection criteria entered by that client.

 - As of September 30, 1985, 269 CCX or client-owned terminals or microcomputers were installed at 93 client locations, compared to 123 terminals at 51 client locations as of September 30, 1984, and 108 terminals at 31 client locations as of September 30, 1983.

 - Upon the client's request (via terminal or PC) the CCX data center will produce mailing lists, labels, or tapes of the composed universe of names selected by the client. During fiscal 1985 approximately 55% of clients received mailing list information via hardcopy and 45% via magnetic tape.

 - Approximately $8.1 million of CCX's fiscal 1985 revenue was derived from list fulfillment, merge/purge, and list enhancement processing services.

 . List fulfillment services include the production of labels or tapes ordered by the customer from existing lists on the CCX network. Fees for the basic service are based on the number of names produced and generally average $6 per thousand.

 . Merge/purge services permit the client to combine multiple mailing lists into a single unduplicated list. Selected enhance-

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ment services such as carrier route coding and Zip code verification designed to maximize the use of postal discounts may also be included for an additional fee.

. FocusMaster list enhancement services include the refinement of a mailing list, Zip code verification and correction, nixie (non-deliverable) identification and elimination, census data overlays, job title and function coding of business lists, ethnic coding, telephone appending, and other purchaser characteristics to improve the market potency of the mailing list.

- Approximately $5 million of CCX's fiscal 1985 revenue was derived from data base resource services. Clients use CCX computers to store and manipulate list names that have been purchased from various list owners. Via on-line access clients can update their information and use CCX's list fulfillment, merge/purge, and enhancement services.

- During fiscal 1985 CCX introduced Quick Counts, a new network service that allows clients to obtain market segementation counts on the number of names that meet the specific characteristics outlined by the client. CCX management states that the counts are available via terminal or PC within several seconds, as contrasted with the industry norm of at least several days waiting time.

- The CCX nework also provides status reports and direct billing services for clients and, upon instruction, routes information or orders to another terminal user on the network.

• Approximately $1 million of CCX's fiscal 1985 revenue was derived from the sale of IBM microcomputer-based turnkey systems for list management.

- CCX provides Mailing Lists on Diskette, name and address records selected from various household and business lists. The diskettes can be used on the client's microcomputer to print mailing labels and personal letters.

- MarketManager$^{T.M.}$ is a lead generation and tracking system that applies data base selection techniques to individual lists residing on the client's microcomputer. The system is used to maintain customer records, produce personalized letters and/or labels, and categorize name and address information. MarketManager is available separately for $295 or as part of the turnkey system.

- Turnkey systems range in price from $2,000 to $10,000, depending on the hardware selected (IBM PC/XT or AT), memory requirements, and other peripheral options.

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INDUSTRY MARKETS

- CCX markets its services to the list processing segment of the direct marketing industry which is involved with the creation, preparation, maintenance, marketing, and use of mailing lists. Clients include list users, owners, managers, and brokers.
 - Major list broker clients include Market Data Retrieval, Inc., which contributed nearly 16% to CCX's fiscal 1985 revenue, and Direct Media, Inc., which contributed over 10% to fiscal 1985 revenue.
 - Other significant clients include American Management Association, Citicorp, GTE, and MCI.

GEOGRAPHIC MARKETS

- One hundred percent of CCX's fiscal 1985 revenue was derived from the U.S.
- CCX has one sales office located in New York City.

COMPUTER HARDWARE AND SOFTWARE

- CCX has the following computers installed at its headquarters:
 - 1 IBM 4381, MVS.
 - 6 IBM 3033s, MVS.
- Client's access the CCX Direct Marketing Network via direct dial or dedicated lines.

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CGA COMPUTER, INC.
960 Holmdel Road
Holmdel, NJ 07733
(201) 946-8900

Bernard M. Goldsmith III,
Chairman and CEO
Robert J. Sywolski, President
Private Corporation
Total Employees: 692
Total Revenue, Fiscal Year End
4/30/84: $46,363,000

THE COMPANY

- CGA Computer, Inc., formerly CGA Computer Associates, was formed in 1968 and provides professional services, systems software products, and micro-computer-based turnkey systems.

- CGA operated as a public company on the over-the-counter market until November 1984. At the company's annual stockholders meeting on November 2, 1984, CGA's shareholders approved a management-led $43.5 million leveraged buyout.

 - Shareholders are to receive $13 for each CGA common share. CGA is to be merged with CGA Acquisition, Inc. As a result of the merger, CGA becomes a privately held company principally owned by Bernard Goldsmith III, CGA's chairman and CEO; other CGA officials; and an affiliate of General Atlantic Corporation, a private investment company.

 - Three lawsuits filed by opponents of the merger are still pending.

- On January 27, 1982, CGA and the SEC reached a settlement relative to the reporting of CGA's February 27, 1981, acquisition of Allen Services Corporation (ASC). CGA accounted for the ASC acquisition by the pooling of interests method of accounting. Pursuant to the terms of the settlement with the SEC, CGA was also required to present audited financial statements that account for the ASC acquisition by the purchase method of accounting. Financial information in the chart below is based on the pooling of interests accounting method.

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CGA COMPUTER, INC.
FIVE-YEAR FINANCIAL SUMMARY
Pooling of Interests Accounting Method
($ thousands, except per share data)

ITEM \ FISCAL YEAR	4/84	4/83	4/82	4/81	4/80
Revenue	$ 46,363	$ 33,130	$ 25,854	$ 20,358	$ 19,227
. Percent increase from previous year	40%	28%	27%	6%	27%
Income before taxes	$ 5,950	$ 4,622	$ 2,811	$ 4,239	$ 3,576
. Percent increase (decrease) from previous year	29%	64%	(34%)	19%	12%
Net income	$ 3,444	$ 2,665	$ 1,636	$ 2,175	$ 1,760
. Percent increase (decrease) from previous year	29%	63%	(25%)	24%	4%
Earnings per share	$ 0.97	$ 0.74	$ 0.50	$ 0.70	$ 0.63
. Percent increase (decrease) from previous year	31%	48%	(29%)	11%	7%

- The chart below represents CGA's financial data for fiscal 1984, 1983, and 1982 using the purchase method of accounting ($ thousands, except per share data):

ITEM \ FISCAL YEAR	4/84	4/83	4/82
Revenue	$46,363	$33,130	$25,854
Income (loss) before taxes	2,284	956	(855)
Net income (loss)	765	(14)	(1,099)
Earnings (loss) per share	0.21	(0.01)	(0.33)

- Research and development expenditures were $787,000 (1.7% of revenue) in fiscal 1984, $480,000 (1.4% of revenue) in fiscal 1983, and $350,000 (1.4% of revenue) in fiscal 1982.

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- On September 14, 1983, CGA purchased Applied Data Corporation, Inc. of Fort Worth (TX) for an undisclosed amount of cash and future royalties.
 - Applied Data develops applications software for medical practices. The operations of Applied Data were merged with CGA's subsidiary, Software Shop Systems, Inc.
 - CGA is currently considering the sale of its rights to the software it acquired with Applied Data.
- Revenue for the three months ending July 29, 1984 was $14.3 million, a 41% increase over $10.1 million for the same period in 1983.
 - Under the pooling of interests method of accounting, net income for the period increased to $920,000 from $758,000.
- CGA is currently organized into two divisions and one wholly owned subsidiary as follows:
 - The Consulting Division provides professional services and has about 725 employees.
 - CGA Software Products Group with headquarters in Holmdel (NJ), develops, markets, and supports systems software products. This division has approximately 100 employees.
 - Software Shop Systems, Inc., with headquarters in Howell Township (NJ), currently markets applications software for IBM personal computers. This subsidiary has approximately 35 employees.
- As of April 30, 1984, CGA had 692 employees. The company currently has 900 employees, segmented as follows:

Marketing/sales	50
Customer support/software services	795
Computer operations	5
General and administrative	50
	900

- CGA's professional services competitors include AGS Computers Inc. and Computer Task Group Inc. Software competitors include Cambridge Systems Group, Duquesne Systems Inc., and IBM.

KEY PRODUCTS AND SERVICES

- Approximately 68% of CGA's fiscal 1984 revenue was derived from professional services and 32% was derived from software products. A three-year summary of source of revenue follows ($ thousands):

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	4/84	4/83	4/82
Professional services	$31,726	$23,214	$19,644
Software products	14,637	9,916	6,210
Total	$46,363	$33,130	$25,854

- CGA's professional services include management consulting, systems analysis and design, and custom programming. Services are marketed to clients located primarily in the metropolitan areas of New York City, Chicago, Philadelphia, Minneapolis, Houston, Milwaukee, Dallas, Dayton, Washington, D.C., Baltimore, Richmond, and Cranford (NJ). CGA serves customers in a wide variety of industry sectors, primarily insurance, banking, communications, and manufacturing industries.

 - Services to the insurance industry have included the development of systems used for:

 . Medical claims processing.
 . Dental claims processing.
 . Medicare claims processing.
 . Membership and billing.
 . Life insurance.
 . Loss control.
 . Pension and funds.
 . Group enrollment.
 . Premium rating.
 . Coordination of benefits.
 . Workmen's compensation.
 . Subrogation.
 . Homeowners.
 . Premium rating.
 . Policy writing.
 . Fire dwelling.
 . Automobile rating.
 . Administration billing.
 . Legal diary.
 . Payments tracking.

 - Services to the banking and brokerage industries have included the development of systems for:

 . Demand deposit accounting.
 . Electronic banking.
 . Letter of credit.
 . Trust analysis.
 . Personal trust investment.
 . Trust custody.
 . Stock transfer.

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- . Mortgage loan.
 . Check processing.
 . Automatic teller machines.
 . Securities surveillance.
 . Options systems.
 . Commodities.
 . Account executive compensation.
 . Securities tracking and accounting.

- Services to the manufacturing industry have included the development of systems for:

 . Forecasting.
 . Inventory.
 . Energy use system.
 . Materials requirement planning and budgeting.
 . Pulp order processing.
 . On-line order entry.

- Services to the petrochemical industry have included the development of systems for:

 . Lease analysis.
 . Forecasting.
 . Cost accounting.
 . Production analysis.
 . Marketing analysis.

- Services to the utilities industry have included the development of systems for:

 . Meter accounting.
 . Vehicle maintenance.
 . Customer billing.
 . Telephone directory.

- Services to the telecommunications industry have included the development of systems for:

 . Inventory control.
 . Switching systems.
 . Terminal support.
 . Electronic mail.
 . Communication interface protocol.
 . UNIX "C" education.
 . Computer graphics.

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- Other development activities have included systems for:

 - Election returns.
 - Tax law publication.
 - Auto leasing.
 - Expense control.
 - Corporate planning.
 - Payroll.
 - Accounts receivable.
 - Accounts payable.
 - General ledger.
 - Allocation system.
 - Financial management.
 - Human resources.
 - Subscription fulfillment.
 - Sales analysis.
 - Sales reporting.

- During fiscal 1984 services to the financial services (banking, insurance, and brokerage), communications, and manufacturing industries accounted for approximately 81% ($25.7 million) of professional services revenue.

- CGA's systems software packages are marketed to clients across industry sectors. The exhibit contains a listing of products currently marketed by CGA Software Products Group.

 - PAC/MASTER™ monitors, controls, and corrects improper usage of direct access storage systems, allowing the user to implement a complete disk storage resource control system and increase mainframe operational efficiency.

 - Super-MIS (Multiple Systems Integrity Facility)™ regulates access to disk storage information and guarantees data file integrity when there is simultaneous access of the same data by more than one system.

 - MSM (Multiple Systems Manager®) provides data file integrity by managing the usage of shared tape and mountable disk devices across systems.

 - GCD (Global Console Director®) allows commands entered from a console physically attached to a particular system to be logically connected and processed by any other system in a computer complex.

 - Single Image™ Software is a system combining the functions of the Super-MSI, MSM, and GCD systems.

 - TOP SECRET™, introduced in 1981, is designed to protect data and programs in the IBM MVS operating system environment, providing seven levels of access for jobs, data sets, and tape/DASD volumes.

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EXHIBIT

SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION	DATE FIRST OFFERED	PRICE (INCLUDES MAINTENANCE)	NUMBER INSTALLED	CPU REQUIREMENTS (OPERATING SYSTEM)
PAC/MASTER	RESOURCE MONITORING	1976	$11,500 PER SITE	120	IBM 360, 370; OS, MFT MVT, SVS, MVS
SUPER-MSI	DISK INFORMATION ACCESS REGULATOR	1976	$8,100 PER SITE, PER YEAR	338	IBM 360, 370, 30XX, 43XX, and PLUG COMPATIBLE; MVS-SE, MVS, VS1, SVS, MVT, MFT
MSM	MULTIPLE SYSTEMS (TAPE AND MOUNTABLE DISK) MANAGER	1979	$5,400 PER SITE, PER YEAR	206	
GCD	GLOBAL CONSOLE DIRECTOR	1980	$5,400 PER SITE, PER YEAR	96	
SINGLE IMAGE SOFTWARE	COMBINES SUPER-MSI, MSM, AND GCD SYSTEMS	1981	$18,900 PER SITE, PER YEAR	11	
TOP SECRET	TOTAL RESOURCE PROTECTION AND ACCESS CONTROL FOR MVS	1981	$10,800 PER YEAR, FIRST CPU AND $6,600 PER YEAR FOR EACH ADDITONAL CPU	20	IBM 370, 30XX, 43X1, and PLUG COMPATIBLE; MVS

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- Applications software and turnkey systems are currently marketed through CGA's Software Shop Systems, Inc. subsidiary.
 - In October 1983 CGA introduced the Construction System, an accounting system designed for the IBM PC/XT and targeted to small and midsized construction companies.
 - The system performs payroll, accounts payable, general ledger, and job costing functions. It is priced at $7,500.
 - In March 1983, CGA became a value-added remarketer for the IBM PC/XT. The Construction System, with hardware, is available at approximately $15,000.
 - The company marketed four industry-specific applications software products designed to run on the IBM System/23. Products were available for manufacturing, construction, distribution, and finance.
 - Since the System/23 is no longer an important offering from IBM, the sale of these products has dropped significantly since 1983.
 - In the fourth quarter of fiscal 1984 CGA wrote off $363,000 of unamortized costs of the manufacturing and distribution systems due to technological changes.
 - During fiscal 1984, CGA's applications software product line lost approximately $1.4 million on a pretax operating basis, including the write-off of the manufacturing and distribution systems.
- The majority of CGA's software products are leased. The company has experienced an over 90% lease renewal rate for all software products.

INDUSTRY MARKETS

- Approximately 55% of CGA's fiscal 1984 revenue was derived from the insurance, banking and finance, communications, and manufacturing industries. The remainder was derived from clients in construction, petrochemicals, and other industries.

GEOGRAPHIC MARKETS

- Approximately 95% of CGA's fiscal 1984 revenue was derived from the U.S. The remaining 5% was derived primarily from Germany, Italy, Norway, and Sweden.
- CGA has offices in Atlanta; Baltimore and North Bethesda (MD); Brookfield (WI); Chicago; Cranford and Holmdel (NJ); Dallas and Houston (TX); Dayton; Minneapolis; Naples and Orlando (FL); New York City; Philadelphia; and Richmond (VA).

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COMPUTER HARDWARE AND SOFTWARE

- CGA maintains the following equipment:
 - 1 IBM 4381, operating under MVS 3.8, MVS XA.
 - 1 IBM 4341, operating under MVS SP, VM HPO.
 - 1 IBM Series 1.
 - 1 Wang VS 100.

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FINANCIAL UPDATE TO HIGHLIGHT DATED DECEMBER 1981

CGA COMPUTER ASSOCIATES, INC.
960 Holmdel Road
Holmdel, NJ 07733
(201) 946-8900

Bernard M. Goldsmith III,
Chairman and CEO
Robert J. Sywolski, President
Public Corporation, OTC
Total Employees: 526
Total Revenue, Fiscal Year End
4/30/83: $33,130,000

CGA COMPUTER ASSOCIATES, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	4/83	4/82	4/81	4/80	4/79
Revenue	$33,130	$25,854	$20,358	$19,227	$15,120
. Percent increase from previous year	28%	27%	6%	27%	46%
Income before taxes	$ 4,622	$ 2,811	$ 4,239	$ 3,576	$ 3,203
. Percent increase (decrease) from previous year	64%	(34%)	19%	12%	63%
Net income	$ 2,665	$ 1,636	$ 2,175	$ 1,760	$ 1,690
. Percent increase (decrease) from previous year	63%	(25%)	24%	4%	51%
Earnings per share	$ 0.74	$ 0.50	$ 0.70	$ 0.63	$ 0.59
. Percent increase (decrease) from previous year	48%	(29%)	11%	7%	40%

- On January 27, 1982, CGA Computer Associates and the SEC reached a settlement relative to the reporting of CGA's February 27, 1981, acquisition of Allen Services Corporation (ASC). CGA accounted for the ASC acquisition on a pooling of interests method of accounting. Pursuant to the terms of the settlement with the SEC, CGA is also required to present audited financial statements that account for the ASC acquisition on the purchase method of accounting. Financial information in the above chart is based on the pooling of interests accounting method. The chart below represents CGA's financial data for fiscal 1983 and 1982 using the purchase method of accounting ($ thousands).

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	4/83	4/82
Revenue	$33,130	$25,854
Income before taxes	956	(855)
Net loss	(14)	(1,099)
Net loss per common share	(0.01)	(0.33)

- On June 1, 1982, CGA purchased the net assets and business of the Software Shoppe of Atlanta for $1,045,000 and 50,000 shares of common stock.
 - The Software Shoppe develops accounting applications software for the IBM Personal Computer and now operates as Software Shop Systems, Inc., a wholly owned subsidiary of CGA.
 - As a result of the acquisition, fiscal 1983 CGA operations reflect 11 months of Software Shoppe revenue amounting to $1,420,000.

SOURCE OF REVENUE

- Approximately 70% of fiscal 1983 revenue was derived from professional services and 30% from software products, as compared to 76% from professional services and 24% from software products in fiscal 1982.

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COMPANY HIGHLIGHT

CGA COMPUTER ASSOCIATES INC.
255 Route 520 East
Marlboro, NJ 07746
(201) 946-8900

Bernard M. Goldsmith, III, President
Public Corporation, OTC
Total Employees: 375
Total Revenue, Fiscal Year
End 4/30/81: $20,358,000

THE COMPANY

- CGA Computer Associates Inc., formed in 1968, provides professional services, software products, and turnkey systems to clients in the insurance, petrochemical, manufacturing, pharmaceutical, banking and finance, and government industry sectors.

- On February 27, 1981, CGA acquired Allen Services Corporation (ASC) for 1,385,356 shares of CGA common stock valued at approximately $16 million. A professional services and software products firm headquartered in Dayton (OH), the company serves clients in the manufacturing and petroleum industries. ASC, with 65 employees, had fiscal year end, December 1980, revenue of $6.6 million.

 - In April 1981, CGA made an offering of 1,050,000 shares of its common stock in connection with its aquisition of Allen Services.

- CGA's fiscal 1981 revenue was $20.4 million, an increase of 6% over fiscal 1980 revenue of $19.2 million. Net income rose 24%, from $1.8 million to $2.2 million, during the same period. A five-year financial summary follows:

December 1981
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FIVE-YEAR REVENUE SUMMARY
($ thousands, except per share data)

FISCAL YEAR / ITEM	4/81	4/80	4/79	4/78	4/77
Revenue	$20,358	$19,227	$15,120	$10,336	$ 6,120
. Percent increase from previous year	6%	27%	46%	69%	147%
Income before taxes and extraordinary item	$ 4,239	$ 3,576	$ 3,203	$ 1,970	$ 1,499
. Percent increase from previous year	19%	12%	63%	31%	158%
Net income	$ 2,175	$ 1,760	$ 1,690	$ 1,122	$ 785
. Percent increase from previous year	24%	4%	51%	43%	155%
Earnings per share	$ 0.70	$ 0.63	$ 0.59	$ 0.42	$ 0.33
. Percent increase from previous year	11%	7%	40%	27%	154%

- CGA is currently engaged with the SEC in an administrative proceeding regarding CGA's accounting for the acquisition of Allen Services on a pooling of interests basis, rather than on a purchase of assets basis. Financial information in the above chart is based on the pooling of interests accounting method. The chart below represents CGA's unaudited financial data for fiscal 1981 using the purchase method of accounting:

	($ Thousands)
Revenue	$20,358
Income before taxes	1,299
Net loss	(25)
Net loss per common share	$ (0.01)

- CGA's lower revenue growth rate in fiscal 1981 was primarily the result of a decrease in ASC's professional services revenue derived from the automotive and heavy manufacturing industries. ASC also began marketing its software products on a monthly lease basis, which resulted in a decline in its software products revenue growth rate.

 - Lower growth rates in net income in fiscal 1980 and 1981 were due to increases in professional staff, costs of new consulting offices, and costs associated with CGA's new turnkey and expanding software products business.

- CGA revenue and net income for the six months ended October 31, 1981 were $11,372,561 and $2,751,746 respectively.

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- In February 1979, CGA sold the stock of its wholly owned subsidiary, Psi-Tran Corporation, for $235,658. Psi-Tran, acquired by CGA in March 1977, provided professional services primarily to federal government clients in the Washington, DC area.

- CGA Software Products Group, Inc., a wholly owned subsidiary located in Marlboro (NJ), markets, develops, and supports CGA software products.

- The company's 375 employees are segmented as follows:

Marketing/sales	28
Consultants	294
Administrative and clerical	47
Executive	6
	375

KEY PRODUCTS AND SERVICES

- Approximately 81% of CGA's fiscal 1981 revenue was derived from professional services and 19% from the sale of software products.

- CGA's professional services include management consulting, systems design and analysis, and custom and contract programming. Services are marketed to clients located primarily in the New York, Chicago, Los Angeles, Dallas, Milwaukee, Washington, DC, Baltimore, and Richmond (VA) metropolitan areas. CGA serves customers in a wide variety of industry sectors, primarily insurance, petrochemical, banking, pharmaceutical, and manufacturing.

 - Professional services conducted for the insurance industry provided CGA with approximately 25% of its fiscal 1981 revenue. Included are the design and implementation of systems used for:

 . Microfilm cross reference for membership documents.
 . Medical and dental claims processing.
 . Auto claims processing.
 . Health maintenance organization and capitation payment.
 . Document control for tracking correspondence and measuring clerical and departmental productivity.
 . Life premium determination.
 . Fire premium billing.
 . Insurance administration and membership processing.
 . Provider review and utilization reporting.

 - Services to the petrochemical industry include the development of systems used for:

 . Allocating labor costs to a variety of product lines as well as profit centers.

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- Monitoring the flow rates of chemical ingredients employed in production.
- Tracking inventories at off-site locations.
- Deblending a product line to its basic components.
- Capital projects cost control.
- On-site inventory tracking.
- Monitoring the costs of chemical production.
- Simulating the combustion engine in order to test various petroleum product lines.
- Sales forecasting.

- Projects conducted for the banking industry include the design and implementation of systems for:

 - On-line money transfer between banks and the Federal Reserve.
 - Student loan processing.
 - Monitoring checking accounts.
 - Automatic teller machines (ATM).
 - Electronic funds transfer.
 - "One statement" programs for bank customers.
 - On-line customer information for use in monitoring trust accounts.
 - Mortgage loan application processing.

- Services performed for clients in the manufacturing industry include the development of systems for:

 - Forecasting.
 - Inventory.
 - Energy use.
 - Materials requirement planning and budgeting.
 - Pulp order processing.
 - On-line order entry.

- CGA's services to the pharmaceutical industry include the development of systems for the research, marketing, legal, administrative, and finance departments of large drug manufacturers.

- Approximately 1,200 CGA systems software packages have been marketed to 380 clients across industry sectors. The DCD II and PAC/MASTER products were developed by CGA. Super-MSI, MSM, GCD, and TSSI were developed by Allen Services. The exhibit contains a listing of products currently marketed by CGA Software Products Group.

 - DCD II is an automatic COBOL documentation and analysis tool that speeds program maintenance and modification.

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EXHIBIT

SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION	DATE FIRST OFFERED	PRICE	NUMBER INSTALLED	CPU REQUIREMENTS (OPERATING SYSTEM)
DCD II	COBOL DOCUMENTATION	1974	$16,000-OS $ 9,600-DOS	350	IBM 360, 370, UNIVAC; OS, VS, MVS, DOS, DOS/OS
PAC/MASTER	RESOURCE MONITORING	1976	$11,500	120	IBM 360, 370; OS, MFT, MVT, SVS, MVS
SUPER-MSI	DISK INFORMATION ACCESS REGULATOR	1976	$15,000 or $ 625/Mo. LEASE	338	IBM 360, 370, 30XX, 43XX, and PLUG COMPATIBLE; MVS-SE, MVS, VS1, SVS, MVT, MFT
MSM	MULTIPLE SYSTEMS (TAPE AND MOUNTABLE DISK) MANAGER	1979	$ 450/Mo.	206	
GCD	GLOBAL CONSOLE DIRECTOR	1980	$ 450/Mo.	96	
TSSI	COMBINES SUPER-MSI, MSM, AND GCD SYSTEMS	1981	$ 1,375/Mo.	11	
TOP SECRET	TOTAL RESOURCE PROTECTION PROTECTION AND ACCESS CONTROL FOR MVS	1981	$ 700/Mo. and $ 350/Mo. FOR EACH ADDITIONAL CPU	20	IBM 370, 30XX, 43X1, and PLUG COMPATIBLE; MVS

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- PAC/MASTER monitors, controls, and corrects improper usage of direct access storage systems, allowing the user to implement a complete disk storage resource control system and increase mainframe operational efficiency.

- Super-MSI (Multiple Systems Integrity Facility) regulates access to disk storage information and guarantees data file integrity when there is simultaneous access of the same data by more than one system.

- MSM (Multiple Systems Manager) provides data file integrity by managing the usage of shared tape and mountable disk devices across systems.

- GCD (Global Console Director) allows commands entered from a console physically attached to a particular system to be logically connected and processed by any other system in a computer complex.

- TSSI (Transparent Single System Image) is a system combining the functions of the Super-MSI, MSM, and GCD systems.

- Top Secret, introduced in 1981, is designed to protect data and programs in the IBM MVS operating system environment, providing seven levels of access for jobs, data sets, and tape/DASD volumes.

- In April 1980, CGA established a Turnkey Systems Division to develop turnkey products for vertical markets. CGA's Blood Bank Processing System, a turnkey offering introduced in 1981, was developed under contract with three community blood banks, giving CGA the right to market the system elsewhere. The system, with prices starting at $75,000, is marketed to community and hospital blood bank operators and uses Data General NOVA or ECLIPSE minicomputers. The typical system is built around the following seven modules:

 - Donor recruitment.
 - Donor registration.
 - Group collection administration.
 - Laboratory processing.
 - Inventory and distribution.
 - Invoicing and accounts receivable.
 - Management reporting.

- Turnkey systems sales accounted for less than 1% of CGA's fiscal 1981 revenue. The company plans to offer turnkey systems for insurance claims processing and health care applications, including nursing home and hospital laboratory administration.

INDUSTRY MARKETS

- Approximately 27% of CGA's fiscal 1981 revenue was derived from the insurance industry. Revenue was also derived from the petrochemical,

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manufacturing, pharmaceutical, government, and banking and finance industry sectors.

GEOGRAPHIC MARKETS

U.S.	88%
International	12%

- Branch offices are located in Dayton (OH), Des Plaines (IL), New York, Tarrytown (NY), Cranford (NJ), Baltimore, Brookdale (WI), Dallas, Richmond (VA), Rockville (MD), Los Angeles, Naples (FL), and Washington, DC.

COMPUTER HARDWARE AND SOFTWARE

- CGA maintains the following equipment:
 - 1 IBM 4341.
 - 1 Data General ECLIPSE.
 - 1 IBM System 34.
 - 1 IBM Series 1.
 - 1 IBM 5100.

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CGI SYSTEMS, INC.
1180 W. Swedesford Road
Suite 350
Berwyn, PA 19312
Phone: (215) 993-8082
Fax: (215) 993-8125

President:	Joseph Ferrandino
Status:	Subsidiary
Parent:	CGI Informatique
Total Employees:	500
Total Revenue:	$322,000,000
Fiscal Year End:	8/31/91

Key Points

- During 1992, four of CGI Informatique's (Paris, France) North American subsidiaries were consolidated as a single corporate entity, called CGI Systems, Inc. This reorganization will help CGI respond to the poor performance of the North American computer-aided software engineering (CASE) market by providing integrated services.
- CGI Systems is one of the four leading vendors of integrated CASE (I-CASE) tools.
- A 1991 review of CGI Systems' I-CASE software offering pointed out that the package had a steep learning curve, though it was highly rated for its ability to increase the speed of applications development.
- In 1991, CGI Systems moved into the UNIX market with PACLAN/X, a UNIX-based I-CASE system developed first for Hewlett-Packard's HP-UX implementation and now for Bull's DPX2 and IBM's RISC 6000.
- In 1992, CGI Systems is emphasizing its CASE solutions for heterogeneous networks, recognizing the need to produce applications within a client/server architecture.

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Company Description

CGI Systems, Inc. is a new consolidation of four CGI Informatique subsidiaries. This reorganization unites the consulting services and software products of the CGI Group Worldwide. The newly reorganized company offers integrated CASE software and associated software maintenance, MRP software, professional consulting services, Yourdon Method training and consulting, and Novell LAN training and certification courses.

Company History

In 1992, CGI Systems, Inc. is used to describe a consolidation of four subsidiaries of CGI Informatique--CGI Consulting, Inc., CGI Systems Inc., Yourdon, Inc., and PRODSTAR.

- The corporation will be headquartered in Berwyn (PA) and will consist of six divisions: the CASE Products Division, Pearl River (NY); the Yourdon Method Division, Raleigh (NC); three Regional Consulting Divisions located in New York (NY), Wayne (PA), and Orlando (FL), and a LAN Education Division in Berwyn (PA).

- Originally, CGI Systems, Inc. referred to the CASE company that was a subsidiary of CGI Informatique, located in Pearl River (NY) originally incorporated in 1980.

Financials

In 1991, worldwide revenue for CGI Systems, Inc. (net of interest expenses) was approximately $322 million.

Major Alliances

CGI Systems has product development and marketing arrangements with Hewlett-Packard, DEC, Oracle, and Bull HN.

Employees

As of March 1992, CGI Systems had approximately 500 employees, segmented as follows:

Marketing	10%
Customer support	5%
Research and development	5%
Computer operations	70%
General and administrative	10%
	100%

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Competitors

CGI Systems' competitors fall into the following categories--companies offering CASE-related application software packages and services, companies offering systems integration consulting, and those offering methods training, LAN training and MRP software.

- CASE application software competitors include Texas Instruments, KnowledgeWare, Andersen Consulting, Intersolv, and Oracle.
- Professional services competitors include Booz Allen, Andersen Consulting, and other Big Six firms.

Key Products and Services

INPUT estimates that approximately 33% of CGI System's 1991 revenue was derived from sales of its I-CASE software, and the remaining 67% derived from associated software maintenance and professional services.

Professional Services:

CGI Consulting Divisions offer a value-added services approach to I-CASE. Consulting services are offered on:

- Management and methods
- Systems requirement analysis
- Project management

CGI Systems, Inc. I-CASE Software:

CGI Systems' products support a wide range of environments. These include both the platforms on which the repository operates as well as the target environments for which it can generate. A partial list includes:

Operates on:

- Mainframes:
 - IBM: MVS, VSE
 - Bull: GCOS8,7
 - Unisys: 0S1100
 - ICL: VME
- LAN
 - UNIX
 - OS/2

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Generates for:

- IBM: MVS, VSE, OS/400, System 38, System 36, OS/2
- Bull: GCOS8, 7, 6
- Unisys: 0S1100, Series A
- ICL: VME
- Other: DEC, HP, Tandem UNIX, DOS
- Data bases: DB2, DL1, Oracle, IDMS, IDSII, RDMS, Teradata

PACBASE:

CGI Systems' PACBASE is an I-CASE tool designed to assist the systems analyst/designer in all phases of the design cycle from analysis through maintenance, based on a single, shared information platform, a repository. PACBASE consists of a combination of three products: PACDESIGN™, PACBENCH™, and PACREVERSE™.

- PACDESIGN provides facilities for the analysis and design of business applications. It implements several major design methodologies (Yourdon, SSADM, Merise). PACDESIGN provides logistical support for the functions of planning, analysis, and design in the system life cycle. It is based on a multi-user repository.

- PACBENCH provides facilities for the creation of complete documented applications, which can be targeted to over thirty environments.

- PACREVERSE standardizes existing applications and integrates them into the CGI repository. It allows for the use of the same environment for both application maintenance and development.

PACLAN and PACLAN/X:

PACLAN is a fully integrated CASE system supporting application development on local and distributed networks.

PACLAN/X supports application development on a network of MS/DOS and OS/2 workstations linked through a UNIX client/server architecture.

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Customers

There are more than 30,000 users of CGI CASE tools at 800 sites worldwide, including GTE Data Services, the U.S. Air Force and Navy, Nordstrom, ITT Financial Services, and Dylex, Canada's largest clothing retailer.

Industry Markets

CGI Systems' products are marketed across industry segments; however, there has been a strong demand for CASE development tools in the banking/finance, insurance, and retail industries.

Geographic Markets

CGI Systems' revenue are primarily derived from North American markets as CGI Systems is the U.S. subsidiary of CGI Informatique. CGI has a separate Canadian division called SIRC, Inc.

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C.I.S. TECHNOLOGIES, INC.
One Warren Place
6100 South Yale Avenue
Suite 1900
Tulsa, OK 74136-1903
(918) 496-2451

Phillip D. Kurtz, Chairman, President, and CEO
Public Corporation, NASDAQ
Total Employees: 313
Total Revenue, Fiscal Year End 12/31/91: $17,776,000

The Company

C.I.S. Technologies (CIS), founded in 1985, provides electronic claims processing and reimbursement management services to the health care industry.

The company's goal is to achieve an initial 20% penetration of the acute-care hospitals with 100 or more beds in the present 24 states it serves, and in any additional states it chooses to serve. Plans for 1991 include:

- Beginning operations in four or five new states and establishing 25 to 30 new interfaces with payers
- Focusing on obtaining contracts to provide services to both existing and new hospitals, with more emphasis on quality
- Increasing profitability

Through 1990, Swiss Reinsurance Co. (SwissRe) owned approximately 53% (13.8 million shares) of CIS' common stock. During 1990, SwissRe made a strategic decision not to continue its information services businesses and announced its intention to sell all of its interest in CIS.

- The selling price of $1.05 per share included $0.05 per share to be reimbursed to CIS to cover expenses incurred in effecting the transaction.
- The transaction was completed in February 1991. CIS purchased one million shares for treasury; CIS associates purchased 4.1 million shares; institutional investors purchased 5.2 million shares; and individual investors purchased 3.5 million shares.

In September 1991, CIS acquired Hospital Billing Analysis, Inc. (HBA) of Palm Springs (CA) for approximately $2.6 million in cash

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and 1.1 million shares of CIS common stock. The acquisition was accounted for as a purchase.

- HBA assists health care providers with their third-party insurance reimbursement audits. HBA currently services 150 hospital clients in 27 states.

- HBA has 200 employees and annual revenue of approximately $8 million.

CIS' 1991 revenue reached $17.7 million, a 74% increase over 1990 revenue of $10.2 million. Net income rose from $121,000 in 1990 toover $1.4 million in 1991. In the four-year summary that follows, the results of HBA have been included from the date of its acquisition.

CIS TECHNOLOGIES, INC.
FOUR-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

	FISCAL YEAR			
ITEM	1991	1990	1989	1988
Revenue	$17,766	$10,205	$4,008	$1,576
· Percent change from previous year	74%	155%	154%	N/A
Income (loss) before taxes	$1,436	$121	$(4,211)	$4,278)
· Percent change from previous year	*	103%	2%	2%
Net income (loss)	$1,431	$121	$(4,211)	$(4,278)
· Percent change from previous year	*	103%	2%	2%
Earnings (loss) per share	$0.06	--	$(0.16)	$(0.24)
· Percent change from previous year	*	*	33%	27%

* *Percent change exceeds 1,000%.*

CIS management attributes 1991 results to the following:

- Revenue growth was attributed to the addition of HBA's charge recovery services and to new contracts signed for reimbursement management services (claims processing and on-site billing management).

- Of the increase in 1991 revenue, $3.2 million was from charge recovery services (HBA).

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- During 1991, 72 new contracts for reimbursement management were signed and CIS processed 12.5 million claims worth $25 billion. CIS processed 7.3 million claims in 1990, 2.8 million in 1989, and 1.6 million in 1988.

- Net income increased due to higher revenue from core reimbursement services, the addition of charge recovery services, and management of profit margins.

Major competitors include Chicago Micro Corporation, Automated Health Systems, Sophisticated Software, Inc., and Wellmark.

Key Products and Services

Approximately 56% of CIS' 1991 revenue was derived from electronic claims processing and management services, 31% from on-site billing (systems operations) services, and 13% from charge recovery and auditing services.

CIS' electronic claims processing (ECP) service allows hospitals to reduce the time between insurance claims submission and payment.

- Health insurance claim data is downloaded electronically from the hospital's information system to an on-site microprocessor. The CIS software program (MED-8000 or MED-7000 system) installed on the client's microprocessor then edits the claims against the 6,000 edits built into the system.

- Correct claims are stored for subsequent transmission to CIS, and claims with errors are highlighted for billing office personnel to review and correct. Corrected claims are re-edited by the system.

- Hospitals then transmit all correct claims to the CIS host computer in Tulsa over toll-free telephone lines. Editing and transmissions to CIS can be performed 24 hours a day, seven days a week.

- Claims received by CIS are grouped by insurance payor, reconfigured into the format requested by each payor, and transmitted electronically (or via mail) to the payors.

- CIS currently edits and transmits over one million claims each month, with a dollar value of $2 billion.

- Fees are charged for initial licensing, training, and installation. After the claims management system is operational, clients are charged a monthly claims processing fee, based on the number of patient beds, as well as a monthly fee for ongoing software

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maintenance and an annual software license renewal fee. CIS charges hospitals approximately $10 per bed per month, which averages to between $0.75 and $1.00 per claim processed.

- CIS claims are accepted by more than 135 insurance payors, including Medicare, Medicaid, CHAMPUS, Blue Cross/Blue Shield, and most commercial payors.

- CIS currently serves more than 475 hospitals in 32 states.

- CIS is expanding its claims processing services to include electronic remittance posting, an expected payment calculator, enhanced electronic claims management, automated follow-up, electronic eligibility verification, and electronic funds transfer.

In September 1991, CIS was awarded a three-year, $7.1 million contract for New York's Single Payer Demonstration Program, an experiment in controlling wasteful administrative spending.

- CIS provides reimbursement and professional consulting services to the 15 New York hospitals initially participating in the program to demonstrate the cost effectiveness of automating, coordinating, and standardizing private third-party insurance payors in a voluntary system, rather than limiting health care to a single government payor.

CIS' on-site reimbursement management services provide CIS personnel at client hospital sites in temporary situations to work to improve billing operations, implement CIS electronic claims management and follow-up systems, and solve billing backlogs. Revenue from these services was $6.6 million in 1991, compared to $4.8 million in 1990.

- Charges for these services are based on negotiated fees, which are either a percentage of the claim value submitted through the electronic claims management system or a set fee, depending on the length of the project and the service provided.

- There are currently seven hospital clients using this service.

CIS' charge recovery and auditing services, acquired with HBA in 1991, are performed by CIS auditors at the client hospitals. Auditors compare insurance claims to patient files; verify that all chargeable items and services have been accurately billed; and perform rebilling, follow-up, and collections services for the claims they identify.

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- This service has historically identified net undercharges amounting to 3% to 5% of the value of the claims examined. CIS is paid a percentage of the net undercharges identified and collected.

- Various auditing services are also provided.

CIS Funding Corporation, a wholly owned subsidiary of CIS formed during 1989, is developing services that will allow hospitals immediate funding of up to 90% of qualified receivables within 48 hours of processing patient claims.

Industry Markets

Ninety-seven percent of CIS' revenue is derived from hospitals. The remaining 3% is derived from other health care clients.

The company's target market is acute-care hospitals with 100 or more beds.

Geographic Markets

One hundred percent of CIS' 1991 revenue was derived from the U.S.

CIS offices are located in Tulsa (OK), Atlanta (GA), Austin and Dallas (TX), New York, Chicago (IL), Coral Springs and Tampa (FL), Charleston (SC), Seattle (WA), Baltimore (MD), Fredericksburg (VA), Louisville (KY), and Irvine, Los Angeles, Palm Springs, and San Francisco (CA).

CIS' reimbursement management, charge recovery, and audit services are used by over 470 clients in 32 states.

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C.I.S. TECHNOLOGIES, INC.
One Warren Place
6100 South Yale
Suite 1901
Tulsa, OK 74136-1930
(918) 496-2451

Phillip D. Kurtz, Chairman, President, and CEO
Public Corporation, NASDAQ
Total Employees: 97 (12/90)
Total Revenue, Fiscal Year End 12/31/90: $10,205,000

The Company

C.I.S. Technologies (CIS), founded in 1985, provides electronic claims processing and reimbursement management services to the health care industry.

The company's goal is to achieve an initial 20% penetration of the acute-care hospitals with 100 or more beds in the present 24 states it serves, and in any additional states it chooses to serve. Plans for 1991 include:

- Beginning operations in four or five new states and establishing 25 to 30 new interfaces with payers
- Focusing on obtaining contracts to provide services to both existing and new hospitals, with more emphasis on quality
- Increasing profitability

Through 1990, Swiss Reinsurance Co. (SwissRe) owned approximately 53% (13.8 million shares) of CIS' common stock. During 1990, SwissRe made a strategic decision not to continue its information services businesses and announced its intention to sell all of its interest in CIS.

- The selling price of $1.05 per share included $0.05 per share to be reimbursed to CIS to cover expenses incurred in effecting the transaction.
- The transaction was completed in February 1991. CIS purchased one million shares for treasury; CIS associates purchased 4.1 million shares; institutional investors purchased 5.2 million shares; and individual investors purchased 3.5 million shares.

In July 1991, CIS announced the signing of a letter of intent to acquired Hospital Billing Analysis, Inc. (HBA) of Palm Springs (CA) for cash and stock.

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- HBA assists health care providers with their third-party insurance reimbursement audits. HBA currently services 150 hospital clients in 27 states.

- HBA has 200 employees and annual revenue of approximately $10 million.

CIS' 1990 revenue reached $10.2 million, a 155% increase over 1989 revenue of $4.0 million. Net income of $121,000 for 1990 includes a credit of $75,000 for the utilization of net operating loss carryforwards. A three-year financial summary follows:

CIS TECHNOLOGIES, INC.
THREE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

	FISCAL YEAR		
ITEM	1990	1989	1988
Revenue	$10,205	$4,008	$1,576
· Percent change from previous year	155%	154%	*
Income (loss) before taxes	$121	$(4,211)	$4,278)
· Percent change from previous year	103%	2%	2%
Net income (loss)	$121	$(4,211)	$(4,278)
· Percent change from previous year	103%	2%	2%
Earnings (loss) per share	--	$(0.16)	$(0.24)
· Percent change from previous year	N/A	33%	27%

CIS management attributes the company's revenue growth to the following:

- Revenue from claims processing during 1990 increased mainly because of new contracts signed. The company had a 98% contract retention rate during 1990.

 - CIS processed 7.3 million claims during 1990, compared to 2.8 million during 1989, and 1.6 million during 1988.

 - The dollar value of claims processed during 1990 was approximately $14.5 billion.

- On-site billing (reimbursement management) services has emerged as a major source of revenue for the company and will continue to be a major source of revenue during 1991.

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- Revenues from these services were approximately $3.3 million in 1990, compared to $250,000 in 1989.

- During 1990, seven contracts for on-site billing services were signed.

Research and development expenses were approximately $1.1 million in 1990 and $1.2 million in 1989. CIS capitalized software development costs of $265,713 and $113,000 in 1990 and 1989, respectively.

Revenue for the six months ending June 30, 1991 reached $3.8 million, a 76% increase over $2.2 million for the same period in 1990. Net income was $276,000, compared to net losses of $640,000 for the same period a year ago.

As of December 31, 1990, CIS had 97 employees. The company currently has 115 employees (not including those to be acquired with HBA).

Major competitors include Chicago Micro Corporation, Automated Health Systems, Sophisticated Software, Inc., and Wellmark.

Key Products and Services

Approximately 53% of CIS' 1990 revenue was derived from electronic claims processing services, 14% from related claims management products and supports services, and 33% from on-site billing (systems operations) services.

CIS' electronic claims processing (ECP) service allows hospitals to reduce the time between claims submission and payment.

· Health insurance claim data is downloaded electronically from the hospital's information system to an on-site microprocessor. The CIS software program (MED-8000 or MED-7000 system) installed on the client's microprocessor then edits the claims against the 6,000 edits built into the system.

· Correct claims are stored for subsequent transmission to CIS, and claims with errors are highlighted for billing office personnel to review and correct. Corrected claims are re-edited by the system.

· Hospitals then transmit all correct claims to the CIS host computer in Tulsa over toll-free telephone lines. Editing and transmissions to CIS can be performed 24 hours a day, seven days a week.

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- Claims received by CIS are grouped by insurance payor, reconfigured into the format requested by each payor, and transmitted electronically (or via mail) to the payors.
- CIS currently edits and transmits over one million claims each month, with a dollar value of $2 billion.
- CIS charges hospitals $10 per bed per month, which averages out to between $0.75 and $1.00 per claim processed.
- CIS claims are accepted by more than 135 insurance payors, including Medicare, Medicaid, CHAMPUS, Blue Cross/Blue Shield, and most commercial payors.
- CIS currently serves more than 300 hospitals in 24 states.
- CIS is expanding its claims processing services to include electronic eligibility, eligibility verification, and follow-up and tracking of claims.

CIS' On-Site Service provides CIS personnel at client hospital sites to work to improve billing operations, implement CIS electronic claims management and follow-up systems, and solve billing back-logs. There are currently seven hospital clients using this service.

CIS Funding Corporation, a wholly owned subsidiary of CIS formed during 1989, is developing services that will allow hospitals immediate funding of up to 90% of qualified receivables within 48 hours of processing patient claims.

Industry Markets

Ninety-seven percent of CIS' revenue is derived from hospitals. The remaining 3% is derived from other health care clients.

The company's target market is acute-care hospitals with 100 or more beds.

Geographic Markets

One hundred percent of CIS' 1990 revenue was derived from the U.S.

CIS offices are located in Tulsa (OK), Atlanta, Austin and Dallas (TX), New York, Chicago, Coral Springs (FL), Charleston (SC), Seattle (WA), Baltimore (MD), and Los Angeles.

The company currently has clients in Oklahoma, Florida, Georgia, Alabama, Louisiana, South Carolina, North Carolina, Texas,

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Tennessee, California, Maryland, Illinois, Missouri, Virginia, Washington, Indiana, Nevada, and Oregon.

Computer Hardware and Software

CIS has DEC VAX computers installed in Tulsa in support of its ECP services.

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CMS/DATA CORPORATION
124 Marriott Drive
Parke Centre, Suite 200
Tallahassee, FL 32301
(904) 878-5155

Rubin I. Osten, Chairman and CEO
Andrew M. Kandel, President and COO
Public Corporation, NASDAQ
Total Employees: 120 (9/90)
Total Revenue, Fiscal Year End
6/30/90: $12,506,300

The Company

CMS/DATA Corporation, formed in 1978, designs, markets, installs, and supports integrated turnkey law office systems.

- CMS/DATA was previously a wholly owned subsidiary of Quartex Corporation (formerly Maxon Computer Systems Incorporated), a Toronto-based, publicly held software developer and value-added reseller of computer hardware and software. Quartex originally acquired all of the outstanding shares of CMS/DATA common stock from former shareholders in a series of transactions in 1986 and 1989. .

- In May 1990, CMS/DATA issued 1.4 million shares of common stock in an initial public offering resulting in net proceeds of approximately $5.4 million. Quartex currently retains a 56.6% interest in CMS/DATA.

During February 1991, CMS/DATA acquired CompInfo, Inc., a New York-based corporate legal software vendor, and Canterbury Systems Corp., a Toronto-based provider of office and practice management software, for 704,000 shares of common stock and $433,000 in cash.

- CMS/DATA believes the acquisitions will allow the company to accelerate its expansion into the corporate law office market and into the New York large law firm market and strengthen its position in the Canadian legal market.

Revenue for the nine months ending March 31, 1991 was $9.5 million, a 1% decrease from $9.6 million for the same period last year. Net income decreased 69%, from $1.1 million to $345,400.

- The decline in system sales revenue was a result of lower hardware prices and delays in client purchasing decisions due to current recessionary and other economic conditions. This decrease was offset by an increase in miscellaneous sales,

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services, and support agreements. In addition, revenues increased from interest earned on the investment of the proceeds from the company's initial public offering.

- CMS/DATA management attributes the earnings decrease to lower hardware prices throughout the computer industry, resulting in reduced gross margin dollars, continued investment in building a national sales and marketing organization, increased investment in research and development, continued expansion of the PC DOS™ network and sales force, and costs associated with the integration of its recent acquisitions.

CMS/DATA's fiscal 1990 revenue reached $12.5 million, a 69% increase over fiscal 1989 revenue of $7.4 million. Net income reached $1.4 million for fiscal 1990, compared to a loss of $393,000 for fiscal 1989. A three-year financial summary follows:

CMS/DATA CORPORATION
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

	FISCAL YEAR		
ITEM	6/90	6/89	6/88
Revenue	$12,506	$7,410	$4,200
• Percent change from previous year	69%	76%	(32%)
Income (loss) before taxes	$1,551	$(393)	$(684)
• Percent change from previous year	495%	43%	N/A
Net income (loss)	$1,434	$(393)	$(684)
• Percent change from previous year	465%	43%	(303%)
Earnings (loss) per share	$0.71	$(0.18)	$(0.29)
• Percent change from previous year	494%	38%	(307%)

Revenue and earnings increases during fiscal 1990 were attributed to the introduction of the CLO*2 (Comprehensive Law Office) Software in December 1988 and sales of CLO*2 Systems.

- Software systems revenues from earlier generation systems (Legal Management System and CLO Systems) declined as a result of the reduced emphasis on sale of these systems during

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the development of CLO*2 Software and the discontinuation of sales of these systems during the year ending June 30, 1989.

As of September 1990, CMS/DATA had 120 full-time and 8 part-time employees. As a result of the acquisitions made earlier this year, the company currently has approximately 400 employees in the U.S. and Canada.

Key Products and Services

Approximately 83% of CMS/DATA's fiscal 1990 revenue was derived from turnkey system sales and 17% from miscellaneous add-on/upgrade sales, professional services, and software support agreements. A three-year source of revenue summary follows:

CMS/DATA CORPORATION
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	6/90		6/89		6/88	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
System sales	$10.4	83%	$5.6	75%	$2.7	65%
Miscellaneous sales, services, and software support agreements	2.1	17%	1.8	25%	1.5	35%
TOTAL	**$12.5**	**100%**	**$7.4**	**100%**	**$4.2**	**100%**

CMS/DATA currently has installed approximately 124 turnkey systems, of which 36 are the company's current generation of CLO*2 Systems and the remainder are systems marketed prior to the introduction of CLO*2 Software.

CLO*2 Systems consist of CLO*2 Software integrated with varying configurations of third-party hardware and software to suit individual customer requirements.

- CLO*2 Software, introduced in December 1988, is designed to improve law office efficiency through the use of computerized practice management applications and various optional practice support applications.

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- Practice management applications include timekeeping, client cost recovery, billing, management reporting, general ledger, accounts payable, and trust accounting.

- Practice support applications include event management, conflicts of interest checking, business development, and access to outside data bases, such as Lexis and Westlaw.

- CLO*2 Systems were originally developed for Data General minicomputers. The company has also developed CLO*2 Software to run under the UNIX operating system for various Data General UNIX-based AViiON computers and is refining the software to run under UNIX and XENIX systems supported by other hardware manufacturers.

 - CMS/DATA has signed a reseller agreement with IBM which allows CMS/DATA to sell CLO*2 Software on IBM's RS/6000 machines.

- CLO*2 Systems also generally include network software (NetWare) from Novell and word processing software from WordPerfect.

- As of September 1990, CMS/DATA had installed 36 CLO*2 Systems for customers in the U.S. and Canada, of which 22 were sales to new customers and 14 were systems upgrades for customers of the company's prior systems.

- The sales prices of CLO*2 Systems have ranged from approximately $75,000 to $750,000 for "back-office" systems and approximately $800,000 to $2.5 million for LAN-based systems.

- Of the 22 CLO*2 Systems sold to new customers, four included a complete LAN sold by CMS/DATA and eight were back-office systems that were integrated with customers' existing LANs.

- Sales of CLO*2 Systems, excluding installation charges and add-ons, accounted for approximately 41% ($5.1 million) of fiscal 1990 revenue and 37% ($2.7 million) of fiscal 1989 revenue.

PC-based applications software available from CMS/DATA includes the following:

- PC Time Entry works with LAN-based CLO*2 Systems containing large numbers of PCs. PC Time Entry assists users

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in recording attorney time information, which is used for billing or other management purposes.

PC DOCS (Document Organization and Control System), introduced in March 1989, is CMS/DATA's proprietary document management product designed to assist in managing the filing, retrieval, and archiving of documents produced using WordPerfect word processing software on a Novell network.

- PC DOCS operates on MS-DOS-based IBM PCs and compatibles (80286, 80386, or 80486) which are connected to a Novell network. PC DOCS has a per-workstation price of $225.

- As of the end of fiscal 1990, the company has derived limited revenues from sales of PC DOCS, which had been marketed primarily to law firms. From product introduction through December 1989, substantially all PC DOCS sales were made to law firms through the company's CLO*2 Systems sales force.

- Since January 1990, CMS/DATA has been establishing an independent dealer network to market PC DOCS to businesses, governmental agencies, and educational institutions, in addition to the legal market. As of September 1, 1990, CMS/DATA had entered into vendor agreements with approximately 126 dealers nationwide.

- CMS/DATA has established a separate subsidiary to focus on the marketing and continuing development of PC DOCS.

CompInfo, acquired in early 1991, offers corporate legal software products for case management, docket control, tracking outside counsel expenses, time recording, departmental chargeback, file room, and corporate secretary.

Canterbury Systems, also acquired in early 1991, provides office and practice management software that integrates with WordPerfect software through Canterbury's document drafting product "Docudraft." Applications include corporate records, real estate, will, and trusts. Canterbury services over 150 Canadian law firms.

Support services provided by CMS/DATA include the following:

- The company generally provides a 90-day warranty for its proprietary software. Thereafter CLO*2 Systems customers are billed on a monthly flat-fee basis.

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- CMS/DATA also provides systems installation, training and consulting, and custom programming services on an hourly fee basis.

Hardware maintenance is provided by Data General.

Industry Markets

One hundred percent of CMS/DATA's fiscal 1990 revenue was derived from law firms.

The company's target market for the CLO*2 System is law firms in the U.S. and Canada with in excess of 50 attorneys.

PC DOCS is targeted to law firms, businesses, governmental agencies, and educational institutions.

Geographic Markets

INPUT estimates 90% to 95% of CMS/DATA's fiscal 1990 revenue was derived from the U.S. The remainder of revenue was derived from Canada.

In addition to its headquarters, CMS/DATA has offices in New York City (NY), Annandale (VA), and San Diego (CA).

Data General has a network of approximately 30 sales representatives located throughout the U.S. and Canada that specialize in sales to the legal market. This network has referred prospective customers to CMS/DATA.

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acquired by Grumman Data Systems (1984)

COMPANY HIGHLIGHT

CTEC, INC.
6862 Elm Street
McLean, VA 22101
(703) 556-7400

Hal Crane, Chairman and CEO
Edward H. Bersoff, President
Private Corporation
Total Employees: 125
Total Revenue, Fiscal
Year End 6/30/81: $6,700,000

PRINCIPAL BUSINESS

- CTEC, Inc., founded in 1974, provides professional services to the federal government, banking and finance, manufacturing, and distribution industries.

FINANCIALS ($ thousands)

	6/81	6/80	6/79	6/78	6/77
Revenue	$ 6,700	$ 5,400	$ 3,600	$ 2,400	$ 1,900
. Percent increase over previous year	24%	50%	50%	26%	-

- CTEC has been profitable since inception.

SOURCE OF REVENUE

Professional services	100%

EMPLOYEES

Technical	103
General and administrative	22
	125

PRODUCTS AND SERVICES

- CTEC's professional services expertise is in the areas of:
 - Ocean surveillance, intelligence, command and control, and electronic warfare.
 - Digital communications.
 - Data management and office automation.
 - Industrial control.

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- The company's largest contract is for the Ocean Surveillance Information System (OSIS), a worldwide information processing system developed, installed, maintained, and upgraded by CTEC under several contracts over a five-year period with the U.S. Navy totaling in excess of $10 million. CTEC derived 50% of its fiscal 1981 revenue for work performed under these contracts. Related work performed in addition to the OSIS contracts includes:

 - Development of information display and high-speed communications systems for the Naval Ocean Surveillance Information Center, which will provide U.S. fleet commanders with an integrated ocean surveillance picture.

 - A major contract with the U.S. Navy for the design and evaluation of the Tactical Flag Command Center, a shipborne processing and display center used by Naval fleet or task force commanders.

 - A study for Over-the-Horizon Detection, Classification, and Targeting Systems which control the flight path of a cruise missile.

 - The current development by CTEC of analytical data correlation and compression systems which make more effective use of huge volumes of collected data.

- The company also develops communications protocol software and message switching systems for the military, government agencies, and financial institutions.

 - An Overseas Branch Communications System providing automated message handling capabilities was designed for a large international financial institution. The system processes monthly income statements, aggregate balance sheets, and statements of condition from 150 locations worldwide. Other features include private network communications capabilities and automated message validation and error detection.

 - Under a contract to the Naval Research Laboratory, CTEC monitored and reviewed a military message experiment examining the application of automated message handling to the military environment.

 - In work performed for the U.S. Defense Communications Agency, CTEC developed alternative communications systems for the World Wide Military Command and Control System, for use in case of system interruption caused by outside military attack.

 - CTEC designed an automated microfilm document storage and retrieval system for the control of large volumes of hard copy materials.

 - CTEC is now developing an intelligent communications preprocessor which will filter and switch messages and data in order to deal more effectively with the increasing volume and speed of information flow.

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- CTEC supplies data management technical support to the Navy Command and Control System (NCCS) in order to provide accurate information on the positions of submarines, ships, and aircraft.
 - Support provided includes:
 - Information requirements analysis and specifications.
 - Comparative source analysis and source selection.
 - Creation of information flow models.
 - Analysis of integrated data networks.
 - Recommendations on the acquisition of data base management systems.
 - Life cycle data acquisition and distribution procedures.
 - CTEC is conducting a data verification and validation study in support of the NCCS under a contract with the Naval Electronic Systems Command. Data element analysis capabilities include relative accuracy, currency, field size and type, timeliness, and usage.
 - The company is now developing the Source Integrity Certification system, which will be used to ensure the timeliness, accuracy, and completeness of source data in distributed data systems.
- CTEC designs and installs customized turnkey industrial and process control systems for manufacturers and distributors.
 - CTEC developed the Factory Supervisor Computer System, which controls the bottling, shipping, and receiving processes for an automated bottling facility.
 - A Sortation Computer System is being designed by CTEC to control sorting of cases of bottled products for a major distributor.

INDUSTRY MARKETS

Federal government	85%
Manufacturing and distribution	10%
Banking and finance	5%

GEOGRAPHIC MARKETS

U.S.	99%
International	1%

- CTEC's U.S. offices are located in McLean, Arlington, and Norfolk, VA.

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COMPUTER HARDWARE AND SOFTWARE

- 1 DEC PDP-11/34.
- 1 DEC PDP-11/45.
- 1 DEC PDP-11/70.
- 1 DEC VAX-11/70.

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COMPANY PROFILE

C3, INC.
460 Herndon Parkway
Herndon, VA 22070
(703) 471-6000

Richard C. Litsinger, Chairman and President
Public Corporation, NYSE
Total Employees: 525
Total Revenue, Fiscal Year End 3/31/87: $86,256,000
Information Services Revenue: $61,600,000

THE COMPANY

- C3, Inc. was founded in 1968 to develop large communications networks, turnkey minicomputer systems, and complex software systems. Since 1973 C3 has oriented its products and services to the government marketplace. C3 now designs, integrates, markets, and maintains custom turnkey systems for use in communications, business, and scientific applications.

 - The company also provides noncomputer services products through a subsidiary company, Tempest Technologies, Inc. Formed in 1981, the subsidiary develops and markets secured systems to the U.S. government. Tempest Technologies contributed approximately $18.7 million (22%) to C3's fiscal 1987 revenue.

 - During the third quarter of fiscal 1988 C3 completed an initial public offering of Tempest Technologies common stock. As a selling shareholder, C3 received approximately $8 million in cash while still retaining 59% ownership of the new public corporation.

 - During the second quarter of fiscal 1988, C3 won the largest contract in its history and one of the largest ever awarded by the federal government. It calls for the delivery of more than 13,000 Tempest accredited, ruggedized microcomputers (with an estimated value in excess of $270 million) to the U.S. Marine Corps.

- Fiscal 1987 revenue reached $86.3 million, a 32% increase over fiscal 1986 revenue of $65.3 million. Net income rose 174%, from $1.5 million in fiscal 1986, to $4.2 million in fiscal 1987. A five-year financial summary follows:

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C3, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	3/87	3/86	3/85	3/84	3/83
Revenue	$ 86,256	$ 65,562	$ 73,756	$ 61,078	$62,548
. Percent increase (decrease) from previous year	32%	(11%)	21%	(2%)	29%
Income before taxes and extraordinary item	$ 6,780	$ 2,675	$ 1,373	$ 7,377	$16,353
. Percent increase (decrease) from previous year	153%	95%	(81%)	(55%)	1%
Net income	$ 4,207	$ 1,533	$ 873	$ 4,276	$ 8,885
. Percent increase (decrease) from previous year	174%	76%	(80%)	(52%)	6%
Earnings per share	$ 0.43	$ 0.16	$ 0.09	$ 0.47	$ 1.05
. Percent increase (decrease) from previous year	169%	78%	(81%)	(55%)	7%

- C3 management attributes increases in fiscal 1987 revenue primarily to the following:
 - A $12.7 million increase in revenue from C3's Tempest Technologies subsidiary.
 - A $2.2 million increase in maintenance revenues due to an increase in the installed equipment base delivered under current contracts.
 - A $4.3 million gain on the sale of real estate that had previously been acquired to build a new headquarters facility. C3 decided instead to relocate to a larger leased facility and centralize all its Virginia operations.
- Income before taxes was $6.8 million for fiscal 1987. This amount included the adverse impact of a $7.6 million charge to earnings resulting from the settlement of the Army DARCOM contract dispute and the benefit from the $4.3 million gain on the sale of real estate.
 - Income before taxes, excluding the aforementioned items, was approximately $10 million in fiscal 1987, compared with $2.4 million (before a $310,000 gain on the real estate sale) for fiscal 1986.

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- In October 1986 C3 negotiated a settlement of its longstanding legal problems with the U.S. Departments of Army and Justice arising from the DARCOM contract dispute.

 - C3 incurred a non-recurring charge to earnings of $7.6 million, consisting of $5.5 million in payments to the government, plus $2.1 million for certain DARCOM contract receivables and settlement expenses that will not be paid by the government.

 - The settlement also required C3's Chairman, President, and CEO, John G. Ballenger, to resign his positions and John D. Vazzana, a director and former Executive Vice President, to also step down.

 - As part of the settlement, the Department of the Army has agreed that it will not suspend or disbar C3 for alleged misconduct on the Army DARCOM contract.

- On April 1, 1987, the company's existing contracts authorized additional purchases of systems and maintenance (backlog) for approximately $217.4 million over periods ranging up to 10 years, as compared to $217.9 million in fiscal 1986. On September 30, 1987, the company's backlog was approximately $456.7 million.

- Revenue for the six months ending September 30, 1987, reached $48.8 million, a 22% increase over revenue of $40 million for the same period in 1986. Net income for the period increased 816%, from $522,000 to nearly $4.8 million.

 - Excluding the gain on the real estate transaction reported for the prior period, revenues increased by over 34%.

 - Prior period results include the $7.6 million charge against earnings, as previously discussed.

- As of March 31, 1987, C3 had 525 employees, segmented as follows:

Marketing and program acquisition	20
Engineering	32
Technical operations	86
Field services	244
Manufacturing	73
General and administrative	70
	525

 - The company currently has approximately 600 employees (including Tempest Technologies).

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- Major competitors include Unisys, Honeywell Information Systems, Federal Data Corp., Iverson Technology, and Falcon Systems.

KEY PRODUCTS AND SERVICES

- Approximately 72% of C3's fiscal 1987 revenue was derived from the sale and maintenance of customized turnkey systems. The remaining 28% of revenue was derived from computer-secured component sales (Tempest Technologies, Inc.), interest, and a gain on the sale of real estate. A three-year summary of source of revenue follows ($ millions):

FISCAL YEAR / ITEM	3/87		3/86		3/85	
	Revenue	Percent of Total	Revenue	Percent of Total	Revenue	Percent of Total
Information services						
. Turnkey systems	$41.9	49%	$40.6	62%	$50.2	68%
. Maintenance	19.7	23	17.5	27	14.6	20
	$61.6	72%	$58.1	89%	$64.8	88%
Tempest Technologies	$18.7	22%	$6.0	9%	$4.3	6%
Micro Products	-	-	-	-	$0.1	-
Interest	$1.7	2%	$1.2	2%	$3.2	4%
Gain on sale of real estate	$4.3	4%	$0.3	-	$1.3	2%
Total	$86.3	100%	$65.6	100%	$73.7	100%

- C3 designs, integrates, assembles, markets, and maintains custom microcomputer and minicomputer turnkey systems principally for the U.S. government. C3 systems are used for a number of purposes including message store-and-forward applications, distributed networking, office automation, scientific engineering, graphics, data security, inventory, and shuttle ground control. Substantially all of the company's business originates from contracts awarded on a competitive bid basis.

- In the majority of its turnkey systems, C3 designs customized hardware or software that is combined with hardware and software purchased under OEM contracts.

 - Customized hardware includes terminals, disk, or tape drive controllers, disk subsystems or communications interfaces, and controllers.

 - C3 purchases microcomputer-based office systems from Convergent Technologies, Inc., super microcomputers from Masscomp, minicom-

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puters from Concurrent Computer Corporation, line and character printers from Genicom and Data Products, and graphics workstations from Tektronix. C3 also acquires selected other devices from other manufacturers based upon specific needs and schedules. Additionally, C3 acquires Tempest devices from its Tempest Technologies subsidiary for selected procurements.

- The systems are sold under the C3 name at prices ranging from approximately $2,200 for a microcomputer system to over $1 million for a fully configured C3 minicomputer system.

- The company's systems can be purchased or leased under sales-type leases at the option of the U.S. government. To date, a majority of the company's systems have been purchased. For fiscal 1987, 5% of systems and software revenue was derived from sales-type leases, as compared to 8% in fiscal 1986.

- Major contracts include the following:

 - As previously discussed, in August 1987 C3 was awarded a contract from the ADP Selection Office of the U.S. Navy for up to 13,335 Tempest accredited, ruggedized microcomputer-based systems for the U.S. Marine Corps. The contract's value over the full life-cycle of nine years is $272 million if the government's presently estimated quantities are ordered by the Fleet Marine Force. Equipment installations are scheduled over the first three years and could represent more than $200 million of the total, with various support services accounting for the balance.

 - In May 1987 the Defense Logistics Agency (DLA) awarded C3 a $16.2 million contract to deliver, install, and maintain telecommunications systems for up to 28 DLA centers across the U.S.

 - The contract requires C3 to provide all software, site preparation, tempesting, and specialized communications engineering as it replaces and extends DLA's AUTODIN Communications Centers.

 - As part of this effort, C3 is integrating a group of protocols, including 2780/3780, HyperChannel, and X.25 for direct connection to various DLA host computer systems.

 - During fiscal 1987 C3 began shipment on the Air Force Real Time AUTODIN Information Device Systems contract.

 - On this $40 million project, C3 is providing hardware, software, training, maintenance, and support for up to 36 automated teleprocessing systems to be developed and installed at 19 Air Force telecommunications centers.

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- The system is designed to process, receive, store, address, and send non-voice message traffic at the base level.

- Under a $6.7 million contract (working through Ford Aerospace) C3 is providing graphics workstations to the Mission Control Center at NASA's Johnson Space Center.

 - The equipment provides shuttle flight information such as payload dispersion, fuel consumption, and shuttle position.

 - Over 18 systems have been installed and accepted at Mission Control.

- Under a $5.3 million contract with U.S. Navy - Civilian Personnel Office (CPO), C3 is supplying 1,214 microcomputers and terminals and 1,981 printers at 188 sites. The systems support Navy CPOs worldwide, including Australia, Iceland, Italy, and Pacific area sites.

- Approximately 36.9% of fiscal 1987 revenue was derived from two ongoing contracts with the General Services Administration (GSA) and the U.S. Coast Guard. These same contracts accounted for 57.9% of fiscal 1986 revenue.

 - In July 1984 C3 was awarded a $73 million contract by the GSA for the delivery of up to 4,299 office automation workstations over a period of eight years. In addition to providing hardware, C3 is responsible for installation, maintenance, service, and systems support, including the training of GSA personnel at various GSA regional offices throughout the U.S.

 - Since 1981 C3 has had a contract with the U.S. Coast Guard to supply up to 6,000 workstations plus peripheral devices, software, training, and maintenance. The systems, installed at Coast Guard stations, on board Coast Guard cutters, and at remote LORAN stations worldwide, assist in search and rescue missions, iceberg tracking, marine safety, drug enforcement, and administrative functions such as payroll and accounting.

- C3 operates a worldwide field service organization in support of the thousands of systems the company has installed in all 50 states and various locations in Europe and the Pacific.

 - Over 200 field service and support representatives provide system installation, maintenance, and customer repair services.

 - Approximately 65 employees provide logistics services (depot repair and spares inventory control) and technical documentation.

- C3 provides formal classroom training at central facilities near the company's corporate headquarters in Herndon (VA) and at the Western Regional Headquarters in San Diego (CA). On-site training is also available.

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INDUSTRY MARKETS

- C3 derives virtually all of its revenue from the federal government.

GEOGRAPHIC MARKETS

- One hundred percent of C3's fiscal 1987 revenue was derived from the U.S.
- C3 has regional/district offices in York and Feasterville (PA), St. Ann (MO), Redbank (NJ), Virginia Beach and Falls Church (VA), Dunwoody (GA), Pensacola (FL), Memphis (TN), Bremerton (WA), and Alameda and San Diego (CA).
- Educational centers are located in Herndon (VA) and San Diego (CA).
- Tempest Technologies, Inc., C3's subsidiary, is headquartered in Herndon (VA).

COMPUTER HARDWARE AND SOFTWARE

- C3 has IBM, Convergent Technologies, and Concurrent computers installed at its headquarters for internal use.

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FINANCIAL UPDATE TO PROFILE DATED OCTOBER 1985

C3, INC.
11425 Isooc Newton Squore South
Reston, VA 22090
(703) 471-6000

John G. Bollenger, President ond Choirmon
Public Corporotion, NYSE
Totol Employees: 506
Total Revenue, Fiscal Year End 3/31/86: $65,252,000
Computer Services Revenue: $58,100,000

C3, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per shore dato)

ITEM \ FISCAL YEAR	3/86	3/85	3/84	3/83	3/82
Revenue	$65,252	$72,421	$61,078	$62,548	$48,577
. Percent increose (decreose) from previous yeor	(10%)	19%	(2%)	29%	49%
Income before taxes ond extroordinory item	$ 2,675	$ 6,840	$ 7,377	$16,353	$16,263
. Percent increase (decreose) from previous yeor	(61%)	(7%)	(55%)	1%	66%
Net income	$ 1,533	$ 873	$ 4,276	$ 8,885	$ 8,355
. Percent increose (decreose) from previous yeor	76%	(80%)	(52%)	6%	68%
Earnings per share	$ 0.16	$ 0.09	$ 0.47	$ 1.05	$ 0.98
. Percent increose (decreose) from previous yeor	78%	(81%)	(55%)	7%	48%

SOURCE OF REVENUE

- Approximately 89% of C3's fiscal 1986 revenue was derived from the sole ond mointenonce of customized turnkey systems. The remoining 11% of revenue wos derived from computer-secured component soles (Tempest Technologies, Inc.) ond interest. A three-year summary of source of revenue follows ($ millions):

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FISCAL YEAR / ITEM	3/86 Revenue	3/86 Percent of Total	3/85 Revenue	3/85 Percent of Total	3/84 Revenue	3/84 Percent of Total
Computer services						
. Turnkey systems	$ 40.6(a)	62%	$ 50.2	70%	$ 44.4	73%
. Maintenance	17.5	27	14.6	20	11.3	18
	$ 58.1	89%	$ 64.8	90%	$ 55.7	91%
Tempest Technologies	$ 6.0	9%	$ 4.3	6%	$ 2.3	4%
Micro Products	-	-	$ 0.1	-	$ 0.2	-
Interest	$ 1.2	2%	$ 3.2	4%	$ 2.9	5%
Total	$ 65.3	100%	$ 72.4	100%	$ 61.1	100%

(a) Includes training services revenue of approximately $500,000.

- Turnkey system revenue declined during fiscal 1986 primarily as the result of the changeover of the JOIN contract with the Army Recruiting Command from hardware sales to maintenance only. In fiscal 1985 this contract accounted for $10.6 million of revenue compared to $4.3 million in fiscal 1986.

- Interest income from sales type leases decreased significantly during fiscal 1986 as the direct result of the government trend toward direct purchase rather than lease.

- During fiscal 1986 C3 shipped more than 4,700 minicomputer- and microcomputer-based systems. Contracts contributing to fiscal 1986 revenue include the following:

 - Approximately 1,400 office automation workstations were delivered to General Services Administration (GSA) regional and field offices. Fiscal 1986 revenue from the GSA contract, including hardware, software, maintenance, and training services totaled $21.2 million.

 - Since 1981 C3 has had a contract with the U.S. Coast Guard to supply up to 5,071 workstations plus peripheral devices, software, training, and maintenance. The systems, installed at Coast Guard stations, on board Coast Guard cutters, and at remote LORAN stations worldwide, assist in search and rescue missions, iceberg tracking, marine safety, drug enforcement, and administrative functions such as payroll and accounting. Fiscal 1986 revenue from the Coast Guard contract was $16.8 million.

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- During fiscal 1986 C3 supplied the U.S. Department of Labor's Occupational Health and Safety Administration with $2.2 million in hardware, software, training, and maintenance for its Integrated Management Information Systems, a contract initially awarded to C3 in 1983.

- Since 1984 C3 has been supplying minicomputer systems to the Department of the Navy Automation Command. Total fiscal 1986 revenue under this contract was $2.6 million.

- In December 1985 the Air Force awarded C3 a four-year contract valued at $11 million to supply New Technology Graphics Workstations to the Strategic Air Command to assist in mission planning. The contract calls for C3 to supply hardware, software, maintenance, and training services. Eleven systems were delivered in March 1986, generating $1.4 million in revenue.

- Other recent contracts awarded to C3 include the following:

 - In March 1986 C3 was awarded a $39.8 million contract by the Air Force to supply Tempest accredited computer systems for up to 19 base telecommunications centers. In addition, C3 will provide a software support system to allow continuous 24-hour real-time message switching, support of remote terminals, and interface to the Department of Defense Automatic Digital Network.

 - In May 1986 C3 was awarded a contract for $8.5 million by the U.S. Air Force to provide portable Source Data Capture Terminal systems at an initial 24 sites worldwide.

 - Earlier in the year C3 was awarded a $2.1 million contract by the U.S. Navy for up to 200 SEED data base management systems for Navy Perkin-Elmer minicomputers.

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COMPANY PROFILE

C3, INC.
11425 Isaac Newton Square South
Reston, VA 22090
(703) 471-6000

John G. Ballenger, President and Chairman
Public Corporation, OTC
Total Employees: 538
Total Revenue, Fiscal Year End 3/31/85: $72,421,000
Computer Services Revenue: $64,800,000

THE COMPANY

- C3, Inc. was founded in 1968 to develop large communications networks, turnkey minicomputer systems, and complex software systems. Since 1973 C3 has oriented its products and services to the government marketplace. C3 now designs, integrates, markets, and maintains custom turnkey systems for use in communications, business, and scientific applications.

 - The company also provides noncomputer services products through a subsidiary company, Tempest Technologies, Inc. Formed in 1981, the subsidiary develops and markets secured systems to the U.S. government.

 - During the fourth quarter of fiscal 1985 C3 discontinued the operations of Micro Products Company (MPC), a division that provided workstations and desktop microprocessors for the commercial marketplace. MPC had net losses of $2.5 million during fiscal 1984.

- Fiscal 1985 revenue reached $72.4 million, a 19% increase over fiscal 1984 revenue of $61.1 million. Net income declined 80% from $4.3 million in fiscal 1984 to $873,000 in fiscal 1985. A five-year financial summary follows:

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C3, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	3/85	3/84	3/83	3/82	3/81
Revenue	$ 72,421	$ 61,078	$ 62,548	$ 48,577	$ 32,535
. Percent increase (decrease) from previous year	19%	(2%)	29%	49%	132%
Income before taxes and extraordinary item	$ 6,840	$ 7,377	$ 16,353	$ 16,263	$ 9,826
. Percent increase (decrease) from previous year	(7%)	(55%)	1%	66%	112%
Net income	$ 873	$ 4,276	$ 8,885	$ 8,355	$ 4,962
. Percent increase (decrease) from previous year	(80%)	(52%)	6%	68%	111%
Earnings per share	$ 0.09	$ 0.47	$ 1.05	$ 0.98	$ 0.66
. Percent increase (decrease) from previous year	(81%)	(55%)	7%	48%	94%

- C3 management attributes net income declines to the following factors:
 - Losses related to the closing of the operations of the Micro Products Company and inventory write-offs were $6.8 million. The write-offs were partially offset by a gain of $1.3 million related to the sale/lease-back of C3's corporate headquarters.
 - Costs of turnkey systems as a percent of turnkey system revenue increased from 68% in fiscal 1984 to 80% in fiscal 1985. The primary reasons for this increase were: lower margins on new contracts, particularly the high-volume General Services Administration contract, due to the mix of equipment the agency initially purchased under the contract; and significant startup costs on two major contracts relating to training and documentation requirements.
- Over 64% of fiscal 1985 turnkey system revenue was derived from contracts with non-Department of Defense agencies and approximately 83% of such revenue resulted from two contracts, one with the General Services Administration and one with the Coast Guard.

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- On April 1, 1985, the company's existing contracts authorized additional purchases of systems and maintenance for approximately $209 million over periods ranging up to 10 years, as compared to $161.1 million in 1984.

 - Of this amount, C3 has received commitments for approximately $120 million from various federal government contracts.

- In January 1985 C3 was notified by the U.S. Attorney's Office that an investigation of C3 in connection with obtaining a Department of the Army contract at the White Sands Missile Range had been terminated and that no indictment would be sought.

 - This investigation was the subject of a debarment proceeding in January 1984 which resulted in a decision favorable to C3. Both C3 and the Army have civil claims against each other with respect to this contract which C3 is attempting to resolve.

 - A second investigation dating back to October 1982 regarding another Army contract with the Defense Supply Service-Washington has not been concluded.

- Revenue for the three months ending June 30, 1985 reached $19 million, a 23% increase over $15.5 million for the same period in 1984. Net income was $767,000 compared to $1.4 million a year ago.

- As of March 31, 1985, C3 had 538 employees, segmented as follows:

Marketing/sales	69
Software support	29
Engineering/techical operations	16
Field service	286
Manufacturing	77
General and administrative	61
	538

 - The company currently has approximately 560 employees.

- Major competitors include Sperry Information Systems, Burroughs, Honeywell Information Systems, and Tandem Computers, Inc.

KEY PRODUCTS AND SERVICES

- Approximately 90% of C3's fiscal 1985 revenue was derived from the sale and maintenance of customized turnkey systems. The remaining 10% of revenue was derived from computer-secured component sales (Tempest Technologies, Inc.), other hardware sales (Micro Products Company), and interest. A three-year summary of source of revenue follows ($ millions):

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FISCAL YEAR / ITEM	3/85 Revenue	3/85 Percent of Total	3/84 Revenue	3/84 Percent of Total	3/83 Revenue	3/83 Percent of Total
Computer services						
. Turnkey systems	$50.2	70%	$44.4	73%	$47.3	76%
. Maintenance	14.6	20	11.3	18	8.6	14
Subtotal	$64.8	90%	$55.7	91%	$55.9	90%
Tempest Technologies	$4.3	6%	$2.3	4%	$1.2	2%
Micro Products	$0.1	-	$0.2	-	$1.4	2%
Interest	$ 3.2	4%	$ 2.9	5%	$ 4.0	6%
Total	$72.4	100%	$61.1	100%	$62.5	100%

- C3 designs, integrates, assembles, markets, and maintains microcomputer, minicomputer, and IBM plug-compatible turnkey systems which are sold principally to the U.S. government. C3 systems are used for a number of purposes including communications front-end processors to large mainframe computers, message store-and-forward systems, distributed networking, office automation, data security, inventory and supply control, and military recruiting. Substantially all of the company's business originates from contracts awarded on a competitive bid basis. As of March 1985, C3 had an installed base of over 200 minicomputer and 6,000 microcomputer systems in 50 states, Puerto Rico, Guam, Samoa, and four foreign countries.

- In the majority of its turnkey systems, C3 designs customized hardware or software that is combined with hardware and software purchased under OEM contracts.

 - Customized hardware includes terminals, disk, or tape drive controllers, disk subsystems or communications interfaces, and controllers.

 - C3 purchases microcomputer-based office systems from Convergent Technologies, Inc., minicomputers from the Perkin-Elmer Corporation, line and character printers from Centronics Data Computer Corporation and laser-disc players from Sony Corporation. C3 also acquires selected other devices from other manufacturers based upon specific needs and schedules. Additionally, C3 acquires TEMPEST devices from its Tempest Technologies subsidiary for selected procurements.

 - The systems are sold under the C3 name at prices ranging from approximately $8,000 for a microcomputer system to over $1 million for a fully configured C3 minicomputer system, with an estimated average price of $25,000 to $50,000.

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- The company's systems can be purchased or leased under sales-type leases at the option of the U.S. government. To date, a majority of the company's systems have been purchased. For fiscal 1985, 14% of systems and software revenue was derived from sales-type leases, as compared to 31% in fiscal 1984. C3 management believes that leases will continue to decline in volume due to new government procurement regulations favoring outright purchase of equipment over sales-type leases.

- Major contracts awarded to C3 include the following:

 - In July 1984 C3 was awarded the single largest contract in its 17-year history by the General Services Administration (GSA). Valued at $73 million, this requirements contract calls for the delivery of up to 4,299 office automation workstations over a period of eight years. In addition to providing hardware, C3 will be responsible for installation, maintenance, service, and systems support, including the training of GSA personnel at various GSA regional offices throughout the U.S.

 - In March 1984 C3 was awarded a $70 million contract from the U.S. Navy to provide up to 200 minicomputer systems and service support under a one-year contract, renewable each year for nine years.

 - In March 1984 C3 was also awarded a $19.4 million eight-year contract from the U.S. Navy for maintenance services for the Navy's Perkin-Elmer 3200 series computers installed at various sites nationwide.

 - In May 1984 C3 won a four-year requirements contract from the U.S. Navy valued at approximately $7 million to provide up to 1,500 Burroughs-compatible terminals and printers.

 - In march 1984 the U.S. Army purchased an additional 541 interactive video disk systems for its recruitment program under an existing C3 contract.

- C3 operates a worldwide field service organization through a network of approximately 280 field engineers.

 - Services are currently provided for more than 6,000 systems in 80 locations. More than 95% of the systems sold to date are maintained by C3 field engineers.

 - Field engineers prepare the user's site, install the system, perform preventive maintenance and repair services, and are available for general assistance in solving customer hardware problems.

- C3 provides formal classroom training at central facilities near the company's corporate headquarters in Reston (VA) and at the Western Regional Headquarters in San Diego (CA).

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- On-site training is also available, as are a number of C3-designed, self-instructional courses in word processing, spreadsheets, and other business and management applications.

INDUSTRY MARKETS

- C3 derives virtually all of its revenue from the federal government.
 - In fiscal 1985, approximately 64% of C3's systems and maintenance revenue was derived from contracts with non-Department of Defense agencies and approximately 83% of that revenue resulted from contracts with the General Services Administration and the U.S. Coast Guard.

GEOGRAPHIC MARKETS

- Approximately 99% of C3's fiscal 1985 revenue was derived from the U.S. and 1% from foreign sources.
- C3 has regional/district offices in Hanover and Feasterville (PA), St. Ann (MO), Redbank (NJ), Norfolk and Falls Church (VA), Marietta (GA), Pensacola and Tampa (FL), Memphis (TN), Bremerton (WA), and Alameda and San Diego (CA).
- Educational centers are located in Reston (VA) and San Diego (CA).
- Tempest Technologies, Inc., C3's subsidiary, is headquartered in Reston (VA).
- C3 International, a division of the company, is responsible for the sales and service of all products and systems outside the U.S. Computer-based systems supplied by C3 to U.S. government overseas installations are serviced by C3 International field engineers from their headquarters in Sunninghill, England, a suburb of London. Also a sales office, it is responsible for the selection and support of distributors who perform as independent sales agents for all C3 products throughout Western Europe.

COMPUTER HARDWARE AND SOFTWARE

- C3 has Convergent Technologies and Cambex computers installed at its headquarters for internal use.

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FINANCIAL UPDATE TO HIGHLIGHT DATED NOVEMBER 1982

C3, INC.
11425 Isaac Newton Square, South
Reston, VA 22090
(703) 471-6000

John G. Ballenger, President
Public Corporation, NYSE
Total Employees: 439
Total Revenue, Fiscal Year End
3/31/83: $62,548,000
Computer Services Revenue:
$57,079,000

C3, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	3/83	3/82	3/81	3/80	3/79
Revenue	$ 62,548	$ 48,577	$ 32,535	$ 14,045	$ 10,574
. Percent increase from previous year	29%	49%	132%	33%	44%
Income before taxes	$ 16,353	$ 16,263	$ 9,826	$ 4,639	$ 3,358
. Percent increase from previous year	1%	66%	112%	38%	67%
Net income	$ 8,885	$ 8,355	$ 4,962	$ 2,354	$ 1,743
. Percent increase from previous year	6%	68%	111%	35%	70%
Earnings per share	$ 1.05	$ 0.98	$ 0.66	$ 0.34	$ 0.25
. Percent increase from previous year	7%	48%	94%	36%	67%

SOURCE OF REVENUE

- Approximately 91% of C3's fiscal 1983 revenue came from sales and maintenance of customized turnkey systems. Interest income and hardware sales (video display terminals and microprocessor-based desktop computers) contributed the remaining 9% of revenue.

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- Computer services revenue increased 27% to $57.1 million in fiscal 1983, up from $45.1 million in 1982. A three-year summary of C3's revenue sources follows ($ thousands):

	3/83	3/82	3/81
Computer services			
Turnkey systems	$48,326	$38,861	$27,152
Maintenance	8,753	6,195	4,309
Subtotal	$57,079	$45,056	$31,461
Hardware sales	1,443	-	-
Interest	4,026	3,521	1,074
Total revenue	$62,548	$48,577	$32,535

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COMPANY HIGHLIGHT

C3, INC.
11425 Isaac Newton Square, South
Reston, VA 22090
(703) 471-6000

John G. Ballenger, President
Public Corporation, OTC
Total Employees: 245
Total Revenue, Fiscal Year End 3/31/82: $48,577,000
Computer Services Revenue: $45,056,000

THE COMPANY

- C3, Inc. was founded in 1968 to develop large communications networks, turnkey minicomputer systems, and complex software systems. Since 1973 C3 has oriented its products and services to the government marketplace. C3 now designs, integrates, markets, and maintains custom turnkey systems for use in communications, business, and scientific applications.

- In 1982 C3 formed a new division, called the Micro Products Company, to develop and market workstations and desktop graphics microprocessors for the commercial marketplace.

- The company also provides noncomputer services products through a subsidiary company, Tempest Technologies, Inc. Formed in 1981, the subsidiary develops and markets security systems to the U.S. government.

- Fiscal 1982 revenue of $48.6 million represented a 49% increase over fiscal 1981 revenue of $32.5 million. Pretax profits showed a good return of 25%, down slightly from a 30% margin in the previous year. A five-year financial summary follows:

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C3, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

ITEM \ FISCAL YEAR	3/82	3/81	3/80	3/79	3/78
Revenue	$48,577	$32,535	$14,045	$10,574	$7,330
. Percent increase from previous year	49%	132%	33%	44%	87%
Income before taxes and extraordinary item	$16,263	$ 9,826	$ 4,639	$ 3,358	$2,011
. Percent increase from previous year	66%	112%	38%	67%	168%
Net income	$ 8,355	$ 4,962	$ 2,354	$ 1,743	$1,026(a)
. Percent increase from previous year	68%	111%	35%	70%	166%
Earnings per share	$ 0.98	$ 0.66	$ 0.34	$ 0.25	$0.15(a)
. Percent increase from previous year	48%	94%	36%	67%	173%

(a) Excludes extraordinary item relating to tax benefits arising from net operating loss carryforward of $495,000 and $0.07 per share

- Revenue increases in 1982 were primarily attributable to deliveries under a $35 million contract with the U.S. Navy awarded in February 1981, and a $41 million contract with the U.S. Coast Guard awarded in June 1981.

- Much of C3's success can be attributed to its decision to bid for support systems contracts not directly related to weapons systems development. Support systems, such as those used for payroll, personnel accounting, job tracking, and inventory control, for example, are far less subject to sudden budget cuts or termination due to obsolescence.

- Over 95% of fiscal 1982 revenue was derived from seven contracts with defense-related agencies and one contract with the Department of Transportation.

- On April 1, 1982, the company's existing contracts authorized maximum additional purchases of systems and maintenance for approximately $106.5 million over periods ranging up to 10 years compared to $78.2 million in 1981.

 - Of this amount, C3 has received commitments for approximately $41.4 million of which approximately $7.3 million has been funded by government appropriations.

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- C3 revenue for the six months ended September 30, 1982, was $22.7 million, an increase of 3.4% over revenue of $21.9 million for the corresponding period in 1981.

- Management anticipates revenue for fiscal 1983 will exceed $60 million.

- As of March 31, 1982, C3 employed 245 people. C3 currently has 307 employees, divided as follows:

Marketing/sales	5
Operations	59
Field service	159
Manufacturing	46
General and administrative	38
	307

- Major competitors include Sperry Univac, IBM, Honeywell, Electronic Data Systems (Federal Data Systems), General Electric Corporation, and Prime Computer, Inc.

KEY PRODUCTS AND SERVICES

- Ninety-three percent of C3's fiscal 1982 revenue came from sales and maintenance of customized turnkey systems. Interest income contributed the remaining 7%.

- Computer services revenue increased to $45.1 million in fiscal 1982, up 43% from $31.5 million in 1981. A three-year summary of C3's revenue sources follows ($ thousands).

	3/82	3/81	3/80
Computer services			
Turnkey systems	$38,861	$27,152	$11,252
Maintenance	6,195	4,309	2,732
Total	45,056	31,461	13,984
Interest income	3,521	1,074	61
Total revenue	$48,577	$32,535	$14,045

- In the majority of its turnkey systems, C3 designs customized hardware or software which is combined with hardware and software purchased under OEM contracts.

 - Customized hardware includes terminals, disk or tape drive controllers, and communications interfaces.

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- C3 purchases minicomputers from Perkin-Elmer and Tandem; microcomputers from Convergent Technologies; mass storage devices from Century Data and Control Data; printers from Centronics and Anadex; video display terminals from Delta Data, Perkin-Elmer, and Sierra Research; and software packages from a number of other suppliers.

- The systems are sold under the C3 name at prices ranging from approximately $15,000 to more than $1.5 million, with an estimated average price of $150,000.

- As of September 1982, C3 had installed over 400 minicomputer systems and 400 microcomputer workstations in both defense- and nondefense-related federal agencies, including the U.S. Army, Navy, Air Force, Coast Guard, Internal Revenue Service, National Aeronautics and Space Administration, Interstate Commerce Commission, and the U.S. Departments of State, Commerce, and Health and Human Services.

- Other contracts held by C3 include:

 - A new Range Operational Control System for use at the U.S. Army's White Sands Missile Range.

 - Customized work tracking source data automation systems for the U.S. Navy's Naval Air and Rework Facilities (NARF).

 - A Computer Assisted Force Management System to support the Tactical Air Force in planning and monitoring air warfare.

- Major contracts awarded to C3 in 1982 were:

 - A multiyear $45.7 million contract with the U.S. Army to provide a video microprocessor-based Joint Optical System Network (JOIN) for support of Army recruiting offices throughout the world. Approximately 3,161 systems will be installed over the next three years.

 - A $41.1 million contract with the U.S. Coast Guard to supply keyboard displays, cluster controllers, printers, and direct access storage devices to be used to develop a computerized search and rescue system, to enforce safety and pollution regulations, and to develop a standard military payroll and personnel system.

 - A $6.7 million contract with the U.S. Navy to supply 15 minicomputers at bases throughout the United States.

 - A $3.2 million contract with the U.S. Air Force to supply minicomputer systems for gathering weather data to various USAF bases in the U.S. and overseas.

 - A $2.9 million contract with the Internal Revenue Service to provide 11 systems to automate the Revenue Accounting Control System.

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- C3 systems are maintained by 117 field engineers at 40 locations.
 - Field engineers prepare the user's site, install the system, perform preventive maintenance and repair services, and are available for general assistance in solving customer hardware problems.
 - Hardware maintenance services are provided under contracts for more than 90% of the systems sold by C3.
- The company also maintains a central staff of software support personnel to train and assist clients in the use of C3-provided software. These personnel also develop or modify operating systems software necessary to fulfill contractual obligations.
- Through the Micro Products Company, C3 has introduced a new line of Z80-based workstations for the commercial microprocessor marketplace, scheduled for availability in December 1982.
 - Called the Houdini Series, products offered will range from a customized terminal device with a monochrome or color screen, to an intelligent desktop computer supporting full color graphics and the CP/M operating system.
 - This division will provide C3 with its own requirements for customized terminals and microprocessors, as well as expand the company into the commercial product end of the computer systems marketplace.

INDUSTRY MARKETS

- C3 derives virtually all of its revenue from federal government agencies.

GEOGRAPHIC MARKETS

- One hundred percent of C3's revenue is derived from the U.S.
- C3 has offices in Norfolk (VA), Pensacola (FL), Philadelphia, Reston (VA), San Diego, St. Louis, and Heidelberg (Germany).
- Micro Products Company and Tempest Technologies, Inc. are located in Sterling (VA).

COMPUTER HARDWARE AND SOFTWARE

- C3 has Perkin Elmer, Tandem, and Convergent Technology central processors installed at its headquarters.

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CABLEDATA
3200 Arden Way
Sacramento, CA 95825
(916) 485-2911

Robert J. Mathews, President
Private Corporation
Total Employees: 708
Total Revenue, Fiscal Year End 12/31/82: $41,837,000

THE COMPANY

- CableData, founded in 1965 as U.S. Computer Systems (D/B/A CableData), provides interactive and remote batch processing services and Tandem-based turnkey systems to the cable television industry.

- 1982 revenue reached $41.8 million, an 18% increase over 1981 revenue of $35.6 million.

- CableData management states that the company's revenue has increased by over 400% during the past five years and attributes this to growth in the cable television industry and the expansion of CableData's product line.

- CableData has two wholly owned subsidiaries, as follows:

 - CableLease, located in Sacramento (CA), was founded in 1981 to provide customers with financing for turnkey systems.

 - CableGames, located in Rancho Cordova (CA), was founded in 1982 to develop educational and recreational games for transmission via cable service to subscribers.

- As of December 31, 1982, CableData had 708 employees. The company currently has 730 employees, segmented as follows:

Marketing/sales	20
Customer support	75
Research and development	200
Computer operations/factory	295
Field maintenance	40
General and administrative	100
	730

- Major competitors include Gill Management Services and CableFacts.

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KEY PRODUCTS AND SERVICES

- INPUT estimates 66% of 1982 CableData revenue was derived from processing services (55% remote batch, 11% interactive) and 34% from turnkey systems.

- Fifty-five percent of CableData's 1982 revenue ($23 million) was derived from remote batch billing services to over 940 cable television companies representing 14 million subscribers in the U.S. and Canada.

 - Cable companies transmit subscriber information via terminals to one of six CableData data centers.

 - CableData generates and mails over nine million statements to subscribers during the last 10 days of each month.

- An estimated 11% of 1982 revenue ($4.4 million) was derived from interactive processing services provided to over 150 cable television companies.

 - Applications available on the network include the following:

 . CableData's primary on-line network offering is DDP (Dispersed Data Processing), which provides the following functions:

 - Order entry.
 - Scheduling/rescheduling.
 - Dispatching.
 - Routing.
 - Installer check-in.
 - Trouble calls.
 - Converter inventory control.
 - Addressable converter interface.
 - Payment posting.
 - Collections.
 - Refunds.
 - Management reporting.
 - Customer billing history.
 - Customer service history.

 . CAPS (CableData Application Package Systems), introduced in 1982, is an accounts payable and general ledger system that can interface with DDP software.

 . Cable 80 billing software updates all subscriber records and produces management reports.

 . Pay 80, introduced in 1982, is an upgrade to Cable 80 and produces mid-month, month-end, and consolidated management reports that allow the cable operator to conduct subscriber life studies and to segment subscribers by predetermined criteria (service, payments, billing, reports).

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- CableData offers clients two types of access to its interactive processing services applications.
 - The On/Line Mini System, designed for smaller cable television companies, permits one or two terminals and a printer, which interface with a CableData computer, to be installed at the client site.
 - The On/Line Shared System, designed for medium-sized cable television companies, allows up to 50 remote terminal locations. An on-line dispatch function is also available with this system.

- An estimated 34% ($14.4 million) of 1982 revenue was derived from CableData's Tandem-based turnkey systems for the cable television industry.
 - The On/Line Exclusive System is designed for large cable companies and combines Tandem NonStop minicomputers with CableData's DDP software.
 - The system is expandable from two up to 16 processors. Each processor can support 64 terminals.
 - Priced from $175,000, there are over 250 On/Line Exclusive Systems installed.
 - In June 1983 CableData introduced its Single Processor System, a turnkey system designed for smaller cable television companies and also based on the Tandem NonStop computer and DDP software.
 - The basic system supports 17 terminals and is expandable to four processors and 160 terminals.
 - Priced from $75,000, there are currently five systems installed.

- During 1983 CableData announced its entry into the electronic manufacturing field and plans to deliver several cable-television-related products in 1984 and 1985, including a Home Terminal Unit (HTU) addressable converter and the Phone Entry Processor (PEP) for automatic cable viewer order taking.

INDUSTRY MARKETS

- One hundred percent of CableData's 1982 revenue was derived from the cable television industry.

GEOGRAPHIC MARKETS

- Virtually all of CableData's 1982 revenue was derived from the U.S. A small percentage was derived from Canada.

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- Regional offices are located as follows:
 - Southeastern: Atlanta.
 - Northeastern: Philadelphia.
 - Midwestern: Indianapolis.
 - Southeastern: Dallas.
 - Western: Sacramento.
 - Canada: Oshawa, Ontario.

COMPUTER HARDWARE AND SOFTWARE

- CableData has five Tandem NonStop computers operating under GUARDIAN installed in Sacramento. The company also has Tandem NonStop computers installed at each of its regional offices.
- Clients access CableData's computers via dedicated telephone lines.

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program

March 1998

Cadence Design Systems, Inc.

President & CEO: **Jack Harding**
555 River Oaks Parkway
San Jose, CA 95134
Phone: **(408) 943-1234**
Fax: **(408) 943-0513**
Internet: **http://www.cadence.com**

Status:	Public
Employees:	3,750 (1/98)
Revenue:	$916,000,000
Fiscal Year End:	1/3/98

Key Points

- Cadence Design Systems has evolved from an electronic design automation tools provider to a complete solutions provider for electronic product realization.
- The company is committed to delivering consulting and design services to accelerate the product development cycle, including complex systems integration and reengineering of the product development process.
- Cadence's solution approach is based on its traditional strength of high-performance software tools augmented with an expanding set of consulting and design services.
- Cadence continues to expand its services capacity through merger and acquisition, a global recruiting effort, and innovative projects such as its November 1997 agreement with the Government of Scotland.

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- The emerging trend toward "system on a chip" (SOC) in electronics is the key underpinning of Cadence's tools and services strategy.

Company Description

Cadence develops, markets, and supports electronic design automation (EDA) software tools that automate, enhance, and accelerate the design and verification of integrated circuits (ICs) and electronic systems.

- The company combines its software with professional services to help optimize its customers' product development processes.

- Cadence's software and services are used by companies worldwide to design semiconductors, computer systems and peripherals, telecommunications and networking equipment, mobile/wireless devices, automotive components, consumer products, and other advanced electronics.

Structure and Operations

Cadence headquarters are in San Jose (CA). The company has sales offices, design centers and research facilities around the world.

Development and marketing of EDA software is concentrated in five specialized business units:

- Deep Submicron: to facilitate the design of integrated circuits manufactured below 0.5-micron

- Custom IC: focuses on the custom layout and physical verification of system-on-a-chip (SOC) designs

- Performance Engineering: tools for high-speed board design

- Logic Design and Verification: High-performance design and simulation checking for complex designs

- Alta: High-level systems design software to speed product realization

Cadence's Professional Services, providing electronic design and consulting services to customers creating everything from complex semiconductors to complete electronic systems, fall into four broad categories:

- Professional Consulting: works with customers to increase design efficiencies within their organizations

- Design Services: product realization services for IC and electronic system design

- Communications Services: product realization services specific to the needs of customers in the areas of wired and wireless communications

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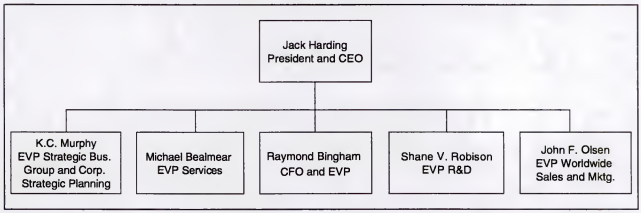
- Multimedia Services: product realization services for multimedia customers with a special emphasis on digital imaging

Design Factory Network

The Cadence Design Factory (sm) Network is a global resource of 18 Cadence Design Centers staffed by seasoned designers sharing their expertise to meet customers' needs. Cadence Design Centers throughout the world work together to assist customers with their toughest electronic design challenges—everything from crafting the latest microprocessor to reducing the manufacturing cost of a printed circuit board.

The network currently has sites in: Rancho Bernardo, CA; Columbia, MD; Roseville, MN; Tredyffrin, PA; Rochester, NY; San Jose, CA; Jackson, MS; Santa Barbara, CA; Ottawa, Ontario; Manchester, Cambridge and Bracknell, England; Milan, Italy; Cary, NC; Portland, OR; Dublin, Ireland; Livingston, Scotland; Paris, France; Shin Yokohama, Japan.

Cadence Design Systems, Inc.
Organization Chart



Source: Cadence Design Systems, Inc.

R&D

Cadence employs more than 1,000 Research & Development software engineers in San Jose, Berkeley, Sunnyvale, and San Diego, CA; Chelmsford, MA.; Research Triangle Park, NC; Edinburgh, Scotland; Rome, Italy; Noida, India; and Hsin-Chu, Taiwan, R.O.C.

Company Strategy

Cadence is committed to being a complete solutions provider to its customers, including providing software tools, strong maintenance/customer support, and customized solutions.

The company's strategy for growth includes:

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- Continuing to extend its EDA software technology lead
- Combining its software with an expert team of experienced support, design, and process service professionals to optimize its customers' product development process
- Offering outsourcing of customers' electronic design work at both the chip and complete system level

Financials

Cadence's 1997 revenue reached a record $916 million, a 33% increase over 1996 revenue of $741 million. Net income rose 584% from 29 million in 1996 to $169 million in 1997.

Cadence management attributes 1997 revenue growth to the following:

- Product revenue increased 28% in 1997, reflecting increased market acceptance of Cadence's products for complex design, deep sub-micron IC and system-on-a-chip design. This was exemplified by increased sales of its place & route, and high-level design software.
- Service revenue increased 42% during 1997 due to a significant demand for Cadence's services that provide a range of solutions for customers' product development needs.

A five-year financial summary follows.

Cadence Design Systems, Inc.
Five-Year Financial Summary
($ Millions, except per share data)

	Fiscal Year				
Item	1997	1996	1995	1994	1993
Revenue	$915.8	$741.5	$548.4	$429.1	$368.6
• Percent change from previous year	33%	(a) 35%	28%	16%	(12%)
Income (loss) before taxes	$234.0	$90.5	$135.1	$48.9	$(12.8)
• Percent change from previous year	259%	(49%)	176%	(b) 482%	(c) (119%)
Net income (loss)	$169.5	$29.0	$97.3	$36.6	$(12.8)
• Percent change from previous year	584%	(335%)	165%	386%	(123%)
Earnings (loss) per share	$0.87	$0.19	$1.57	$0.56	$(0.20)
• Percent change from previous year	458%	(826%)	180%	380%	(125%)

(a) Includes $50.9m in revenue from Integrated Measurement Systems, Inc. Cadence Design Systems held 57% of ISM stock until the first quarter of 1997, when ownership was decreased to 37% through a secondary stock offering. IMS revenue is not included in 1997 results.

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(b) Includes unusual items (charges) of $14.7 million for write-offs of in-process research and development and settlements of litigation.

(c) Includes unusual items (charges) of $19.7 million for losses related to the disposition of the Automated Systems division and restructuring costs in the areas of sales, operations, and administration.

Source: Cadence Design Systems, Inc.

Research and development expenses were $140.4 million (15% of revenue) in 1997, $115.3 million (16% of revenue) in 1996, and $88.6 million (16% of revenue) in 1995.

Marketing and sales expenses were $257.9 million (28% of revenue) in 1997, $226.5 million (30% of revenue) in 1996, and $185 million (43% of revenue) in 1995.

General and administrative expenses were $56.5 million (6% of revenue) in 1997, $54.3 million (7% of revenue) in 1994, and $40.4 million (7% of revenue) in 1996.

Source of Revenue by Product / Service

Approximately 82% of Cadence's 1997 revenue was derived from software products and associated maintenance services. The remaining 18% of revenue was derived from consulting professional services, training, and circuit design.

A three-year source of revenue summary follows.

Cadence Design Systems, Inc.
Three-Year Source of Revenue Summary
($ Millions)

	Fiscal Year					
	1997		1996		1995	
Item	Revenue $	Percent of Total	Revenue $	Percent of Total	Revenue $	Percent of Total
Software products	$530.5	58%	$414.0	56%	$292.2	53%
Maintenance	224.5	24%	212.8	29%	190.3	35%
Professional services	160.9	18%	114.6	15%	65.9	12%
Total	$915.9	100%	$741.4	100%	$548.4	100%

Source: Cadence Design Systems, Inc.

Market Financials

One hundred percent of Cadence's revenue is derived from the discrete manufacturing industry.

Cadence customers and target markets include computer manufacturers, consumer electronics companies, industrial electronics companies, semiconductor manufacturers, ASIC foundries, and telecommunications companies.

Corporate Background

Cadence Design Systems, Inc. was created in 1988 through the merger of ECAD, Inc. and SDA Systems, two EDA pioneers. Through innovative product development,

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strategic partnerships, and highly successful business mergers, Cadence has become the industry's leading supplier of EDA software technology and services. Key acquisitions in Cadence's history include Tangent Systems, Inc. in 1989, which brought advanced IC place-and-route technology to the company; and Gateway Design Automation in 1989, the leading supplier of logic simulation technology with its Verilog-XL® product. In 1991, Cadence, merged with Valid Logic Systems, a market leader in printed circuit board design tools. In 1994 Cadence combined its acquisitions of Redwood Design Automation and Comdisco Systems, Inc. to form the Cadence® Alta™ high-level design system. Alta technology focuses on tools for applications such as wireless communications, multimedia, and advanced computing systems.

In 1997 Cadence completed the acquisition of two companies focused on the emerging "system-on-a-chip" market — High Level Design Systems (HLDS) and Cooper & Chyan Technology (CCT). The two offer critical technology needed for placing complete system-level functionality onto a single silicon chip.

Cadence's Professional Services Group, launched in 1993, was the industry's first consulting services organization dedicated to working with customers to refine their product development environments. In early 1995, the Company signed a five-year agreement with Unisys Corporation to assume responsibility for Unisys' chip design operations. Part of the landmark outsourcing agreement included more than 150 chip designers who are now Cadence employees based in Rancho Bernardo, California. That site anchors an expanding network bolstered by additional outsourcing deals and acqusitions of 18 design centers around the world. In 1997, the Cadence services business was $161 million. Companies large and small have embraced the concept, and include Motorola, Lucent, Toshiba, Sony, and many others. Cadence continues to expand its services operations through merger and acquisition and worldwide recruiting.

In 1997, Cadence announced its plans to open its largest design services operation, a planned 2000-person facility in Livingston, Scotland. The investment is part of a multi-faceted initiative by Cadence and the Scottish government to address all the requirements of system-on-a-chip design.

Further evidence of Cadence's commitment to growing the system-on-a-chip industry was its active role in the formation of the Virtual Socket Interface (VSI) Alliance in 1996. A working consortium of more than 100 well-known high-tech companies, VSI is crafting a standard that will allow the mixing and matching of intellectual property blocks on silicon produced by multiple manufacturers. The VSI standard will permit the innovative reuse of electronic designs that will quicken the time-to-market for better, faster, and cheaper products.

In 1993, the establishment of Cadence Berkeley Labs created a unique, advanced research group that is separate from the Company's core engineering organization. The team of PhDs works with customers and academia to research leading-edge EDA technology. Since its founding, Cadence Berkeley Labs has been responsible for

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several key pieces of technology that have been integrated into Cadence's product line. International expansion of the Cadence Labs concept happened in 1996 with a network of research sites, anchored by a state-of-the-art operation in Rome.

Key Products and Services

EDA tools assist with the two major functions of the electronic product development cycle: electrical design, often referred to as CAE (computer-aided engineering), and physical design, often referred to as computer-aided design (CAD).

Cadence's line of integrated EDA software tools are used to analyze, simulate, implement, and verify electronic designs.

- By using these tools to automate significant parts of the design process, electronic engineers can focus their time on developing the intellectual content of the integrated circuit or electronic system.

- In addition, design automation tools let design architects and engineers build abstract models of chips, simulate their behavior, and analyze their physical attributes for acceptable performance. EDA also ensures that the product design can be manufactured and can work as intended.

Cadence offers the following EDA products:

- CAE products for logic simulation and design planning

- IC design products for custom layout, automatic place and route, and verification

- PCB design

- High-level design tools for architectural-level analysis and verification

Cadence's software products are summarized in the exhibit on the following page.

Support Services

Cadence's Applications Services are intended to maximize productivity with Cadence software applications and transfer knowledge to design teams in new methodologies and technologies. Categories of services include:

- Software installation

- Quick start

- Application training

- Customization

- Technology services

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Cadence's Professional Services organization offers technical and consulting experts to provide:

- Design methodology and process reviews to determine how to compress design cycles, reduce iterations, reduce costs, or enable new design processes
- Library and data management consulting to facilitate design efficiency, re-use, enabling of variant design styles, and support of enterprise-wide data and release management
- Design services, including complete or partial design responsibility from specification to tape-out, as well as turnkey IC design services through Cadence's design group in San Diego

Marketing and Sales

Approximately 29% of Cadence's total work force is engaged in field sales and sales support.

In North America, Cadence uses a direct sales force consisting of sales people and applications engineers to license its products. The selling cycle is generally long, with three to six months being typical. Activities during this sales cycle typically consist of a technical presentation, a product demonstration, a design benchmark, and often, an on-site customer evaluation of Cadence software.

In Europe and Asia, Cadence markets and supports its products primarily through 15 majority-owned subsidiaries. Cadence also serves its international customers through distributors in various countries throughout Europe and the Asia/Pacific region.

Cadence licenses its IC products in Japan primarily through a distributor—Innotech Corporation.

All of Cadence's services are offered directly from the company through its global services organization.

Alliances

Through Cadence's Connections Program, the company cooperates with other design automation vendors so its customers can more easily integrate Cadence products and technologies with other companies' products and technologies. To date, more than 100 companies have integrated their tools with Cadence's software.

Cadence has also taken the lead in the EDA industry in forming reciprocal access agreements with its tool competitors. Driven by customer requirements in its services business engagements, Cadence has rights to buy and use software from all of its major competitors.

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Cadence has working relationships with a number of semiconductor manufacturers and electronic system companies based on a business partnership model to ensure that research and development activities and finished products meet customers' needs.

Cadence supports EDA research by sharing its design automation technology and expertise with more than 500 universities worldwide.

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Exhibit
Cadence Software Products

Product	Design Process
CAE Products	
Verilog XL™, NC-Verilog™	Verilog HDL logic simulator
Leapfrog™ VHDL	VHDL simulator
Model Import	For importing a textual description block of Verilog or VHDL
INCA™	Architecture for next-generation mixed-language solutions
Silicon Synthesis™	Optimizes logic based on actual physical implementation
SiliconQuest™	Advanced high-level chip planning environment
IC Design Products	
Virtuoso™ products	Custom IC layout and library development
Ensemble™ products	Place and route solutions for gate, cell, block, and mixed designs
- Gate Ensemble™	Place and route engine
- Cell Ensemble™ and Cell3™	Cell-based routing
- Block Ensemble™	Block-based routing
- Silicon Ensemble™	Routing up designs with a mix of cell and gate-based approaches
- QPlace™	Placement system
Cadence Design Planner	Logic, physical and top-down tools speed DSM IC development
Dracula® product	Physical verification
Diva®	Interactive verification
IC Craftsman™	Shape-based router for system-on-a-chip assembly
Vampire™	Next-generation verification
System Design Products	
Allegro™ product family	Layout of standard PCB, hybrid, MCM, and advanced components
- DF/Signoise™	Signal integrity
- DF/Thermax™	Thermal
- DF/Viable™	Reliability
- DF/EMControl™	Electromagnetic compliance
BoardQuest™	High-speed system design planning
The Analog Artist™ series	Simulation, layout and verification tools for chip design
- Spectre™HDL	Analog behavioral simulation system for analog and mixed-signal appl.
- Spectre™RF	Simulation software for design of radio frequency applications
- Analog Workbench™	Analog system and board-level design
Electronic Systems Design Automation Products	
Signal Processing Workbench®	Top-down design automation software
EnWave™, EnVision™	Application-specific system-level design suites
Visual Architect	Application-specific behavioral synthesis

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Competitors

Major competitors in the $2.5 billion EDA industry include Mentor Graphics, Synopsys, and Zuken-Redac.

Assessment

Cadence's strengths include:

- Large installed base of users
- Leadership position in offering a total solution, results-oriented approach to electronic design
- Strong portfolio of software tools and commitment to research and development

Challenges include:

- Managing the company's rapid growth
- Maintaining technological edge with software product line
- Continuing to align the industry with its new business model

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Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

June 1996

Cadence Design Systems, Inc.

President & CEO: Joseph B. Costello
555 River Oaks Parkway
San Jose, CA 95134
Phone: (408) 943-1234
Fax: (408) 943-0513
Internet: http://www.cadence.com



Status:	Public
Employees:	3,028 (3/96)
Revenue:	$548,418,000
Fiscal Year End:	12/31/95

Key Points

- Cadence Design Systems has evolved from an electronic design automation tools provider to a complete solutions provider for electronic product development.
- The company is committed to delivering product development consulting and design services to accelerate the product development cycle, including complex systems integration and reengineering of the product development process.
- Cadence's Solution approach is based on its traditional strength of high-performance software tools augmented with an expanding set of consulting and design services.
- Cadence was awarded its first outsourcing agreement in March 1995—a five-year, $75 million contract with Unisys.

Company Description

Cadence develops, markets, and supports electronic design automation (EDA) software tools that automate, enhance, and accelerate the design and verification of integrated circuits (ICs) and electronic systems.

- The company combines its software with professional services to help optimize its customers' product development processes.

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- Cadence's software and services are used by companies worldwide to design semiconductors, computer systems and peripherals, telecommunications and networking equipment, mobile/wireless devices, automotive components, consumer products, and other advanced electronics.

Structure and Operations

Cadence is headquartered in San Jose (CA) and operates through the following units:

- Alta Group, based in Sunnyvale (CA), provides software for top-down design.
- Integrated Measurement Systems, Inc. (IMS) is a subsidiary of Cadence that manufactures and markets verification systems used in testing prototype application-specific integrated circuits (ASICs).
 - IMS, based in Beaverton (OR), was acquired by Cadence in February 1989.
 - During 1995, Cadence and IMS sold approximately three million shares of IMS common stock in a public offering. Cadence remains a majority stockholder of IMS with an ownership percentage of approximately 55%.

Domestic sales offices are in Arden Hills (MN); Atlanta (GA); Austin and Dallas (TX); Beaverton (OR); Bellevue (WA); Cary (NC); Chelmsford (MA); Colorado Springs and Golden (CO); Columbia (MD); Edison (NJ); Fishkill, Melville, and Victor (NY); Irvine, Los Angeles, San Diego, San Francisco, and San Jose (CA); Orlando (FL); North Olmstead (OH); Schaumberg (IL); and Tempe (AZ).

International sales offices/subsidiaries are in Canada, France, Germany, Hong Kong, Israel, Italy, Japan, Korea, the People's Republic of China, Singapore, Sweden, Switzerland, Taiwan, and the U.K.

Research and development centers are in Berkeley, San Jose, and San Diego (CA); Chelmsford (MA), Lawrence (KS), the U.K., France, Taiwan, and India.

Design Factory™ design service centers are in Rancho Bernardo and San Jose (CA), Columbia (MD), Trydffrin (PA), and Roseville (MN).

Cadence is participating in a venture capital partnership—Telos Venture Partners—as a limited partner.

- The partnership's purpose is to make venture capital investments in start-up and growth-oriented businesses, with some emphasis on businesses in the semiconductor and software industries.
- Cadence's total investment of $25 million will be made over the next three to four years.

Company Strategy

Cadence is committed to being a complete solutions provider to its customers, including providing software tools, strong maintenance/customer support, and customized solutions.

The company's strategy for growth includes:

- Continuing to enhance its EDA software tools
- Combining its software with an expert team of experienced support, design, and process service professionals to optimize its customers' product development process
- Offering outsourcing of customers' design work

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Financials

Cadence's 1995 revenue reached $548.4 million, a 28% increase over 1994 revenue of $429.1 million. Net income rose 165%, from $36.6 million in 1994 to nearly $97.3 million in 1995.

Cadence management attributes 1995 revenue growth to the following:

- Product revenue increased 21% in 1995, reflecting increased market acceptance of Cadence's products for complex design, such as deep submicron IC design and high-speed board design. This was exemplified by increased sales volume of its IC, automated test engineering (ATE), top-down design (HDL), and Alta Group's systems design products.
- Service revenue increased 132% during 1995 due to a significant demand for Cadence's services that provide a range of solutions for customers' product development needs. The 1995 increase was also driven by the outsourcing agreement with Unisys.
- Maintenance revenue increased 20% during 1995 due to an increase in Cadence's installed base of products and ability to obtain customer maintenance renewals.

A five-year financial summary is shown below.

Cadence Design Systems, Inc.
Five-Year Financial Summary
($ Millions, except per share data)

	Fiscal Year				
Item	1995	1994	1993	1992	1991
Revenue	$548.4	$429.1	$368.6	$418.7	$379.5
• Percent change from previous year	28%	16%	(12%)	10%	1%
Income (loss) before taxes	$135.1	$48.9	$(12.8)	$68.4	$(12.2)
• Percent change from previous year	176%	(a) 482%	(b) (119%)	110%	(c) N/A
Net income (loss)	$97.3	$36.6	$(12.8)	$55.4	$(22.4)
• Percent change from previous year	165%	386%	(123%)	347%	(141%)
Earnings (loss) per share	$1.57	$0.56	$(0.20)	$0.80	$(0.38)
• Percent change from previous year	180%	380%	(125%)	311%	(119%)

(a) Includes unusual items (charges) of $14.7 million for write-offs of in-process research and development and settlements of litigation.

(b) Includes unusual items (charges) of $19.7 million for losses related to the disposition of the Automated Systems division and restructuring costs in the areas of sales, operations, and administration.

(c) Includes unusual items totaling $55.2 million, including restructuring charges of $49.9 million and losses from disposed operations of $5.3 million

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Research and development expenses were $88.6 million (16% of revenue) in 1995, $77.4 million (18% of revenue) in 1994, and $74.5 million (20% of revenue) in 1993.

Marketing and sales expenses were $185 million (34% of revenue) in 1995, $163.4 million (38% of revenue) in 1994, and $160.2 million (43% of revenue) in 1993.

General and administrative expenses were $40.4 million (7% of revenue) in 1995, $39.7 million (9% of revenue) in 1994, and $38.7 million (11% of revenue) in 1993.

Source of Revenue by Product/Service

Approximately 88% of Cadence's 1995 revenue was derived from software products and associated maintenance services. The remaining 12% of revenue was derived from consulting professional services, training, and circuit design.

A three-year summary of source of revenue follows:

Cadence Design Systems, Inc.
Three-Year Source of Revenue Summary
($ Millions)

	Fiscal Year					
	1995		1994		1993	
Item	Revenue $	Percent of Total	Revenue $	Percent of Total	Revenue $	Percent of Total
Software products	$292.2	53%	$241.5	56%	$224.1	61%
Maintenance	190.3	35%	159.2	37%	127.6	35%
Professional services	65.9	12%	28.4	7%	16.9	4%
Total	$548.4	100%	$429.1	100%	$368.6	100%

Interim Results

Revenue for the three months ending March 31, 1996 reached $163.4 million, a 41% increase over $116 million for the same period in 1995. Net income was $25.6 million, an 89% increase over $13.6 million for the same period a year ago.

- Growth was attributed to the continued demand for professional services and software products.
- First-quarter product revenue increased 45% to $90.2 million. Strong results were reported in the areas of logic verification (Verilog XL and Leapfrog VHDL families); IC place-and-route and physical verification (Ensemble and Dracula/Vampire offerings); and high-level design technology (Alta Group).
- Professional services revenue increased 120% to $23.1 million due to increased participation by Cadence in customer chip design.

Market Financials

One hundred percent of Cadence's revenue is derived from the discrete manufacturing industry.

Cadence customers and target markets include computer manufacturers, consumer electronics companies, industrial

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electronics companies, semiconductor manufacturers, ASIC foundries, and telecommunications companies.

Geographic Markets

Approximately 50% of Cadence's 1995 revenue was derived from the U.S. and the remaining 50% from international sources.

During 1995, domestic and international revenue increased 33% and 23%, respectively, following increases of 12% and 21% in 1994.

- The higher percent increase in domestic revenue in 1995 as compared to international revenue was primarily due to an increase in domestic service revenue in 1995 compared to 1994.

- In addition, $11.7 million of the $50.3 million increase in international revenue for 1995 was attributed to the favorable impact on revenue of foreign exchange rates.

A three-year geographic source of revenue summary follows:

Cadence Design Systems, Inc.
Three-Year Geographic Source of Revenue (a) Summary
($ Millions)

	Fiscal Year					
	1995		1994		1993	
Item	Revenue $	Percent of Total	Revenue $	Percent of Total	Revenue $	Percent of Total
U.S.	$276.6	50%	$207.6	48%	$185.0	50%
Asia/Pacific	175.4	32%	138.7	33%	109.8	30%
Europe	96.4	18%	82.8	19%	73.8	20%
Total	$548.4	100%	$429.1	100%	$368.6	100%

(a) After accounting for intercompany and export revenues.

Acquisitions

In August 1994, Cadence acquired Redwood Design Automation, Inc. for approximately 600,000 shares of Cadence common stock. The acquisition was accounted for as a purchase.

- Redwood developed, marketed, and supported software tools for electronic systems design.

- In connection with the acquisition, Cadence recorded a one-time charge to operations of $4.7 million for the write-off of in-process research and development.

- The operations of Redwood have been merged into Cadence's Alta Group.

Divestitures

In December 1993, Cadence sold its Automated Systems (ASI) division.

- ASI, with 1993 revenue of $11.2 million, provided printed circuit board (PCB) design software products.

- The operating results of ASI have been reported as a disposal of a division and are included as an unusual item within operating expenses. The loss of disposal

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of approximately $5.3 million was recorded in 1993 results.

Employees

As of December 31, 1995, Cadence had 2,839 employees, compared to 2,449 employees as of December 31, 1994 and 2,476 employees as of December 31, 1993.

As of March 1, 1996, Cadence had 3,028 employees, segmented as follows:

Field sales and sales support	869
Marketing support and manufacturing activities	909
Product development	997
Management, administration, and finance	253
	3,028

Key Products and Services

EDA tools assist with the two major functions of the electronic product development cycle: electrical design, often referred to as CAE (computer-aided engineering), and physical design, often referred to as computer-aided design (CAD).

Cadence's line of integrated EDA software tools are used to analyze, simulate, implement, and verify electronic designs.

- By using these tools to automate significant parts of the design process, electronic engineers can focus their time on developing the intellectual content of the integrated circuit or electronic system.
- In addition, design automation tools let design architects and engineers build abstract models of chips, simulate their behavior, and analyze their physical attributes for acceptable performance. EDA also ensures that the product design can be manufactured and can work as intended.

Cadence offers the following EDA products:

- CAE products for logic simulation and logic synthesis
- IC design products for custom layout, automatic place and route, and verification
- PCB design
- High-level design tools for architectural-level analysis and verification

Cadence's software products are summarized in the exhibit.

Support Services

Cadence's Applications Services are intended to maximize productivity with Cadence software applications and transfer knowledge to design teams in new methodologies and technologies. Categories of services include:

- Software installation
- Quick start
- Application training
- Customization
- Technology services

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Exhibit
Cadence Software Products

Product	Design Process
CAE Products	
Verilog XL™, NC-Verilog™	Verilog HDL logic simulator
Leapfrog™ VHDL	VHDL simulator
Model Import	For importing a textual description block of Verilog or VHDL
INCA™	Architecture for next-generation mixed-language solutions
Synergy™	Circuit synthesis and optimization
Silicon Synthesis™	Optimizes logic based on actual physical implementation
SiliconQuest™	Advanced high-level chip planning environment
IC Design Products	
Virtuoso™ products	Custom IC layout and library development
Ensemble™ products	Place and route solutions for gate, cell, block, and mixed designs
- Gate Ensemble™	Place and route engine
- Cell Ensemble™ and Cell3™	Cell-based routing
- Block Ensemble™	Block-based routing
- Silicon Ensemble™	Routing up designs with a mix of cell and gate-based approaches
- QPlace™	Placement system
Dracula® product	Physical verification
Diva®	Interactive verification
Vampire™	Next-generation verification
System Design Products	
Allegro™ product family	Layout of standard PCB, hybrid, MCM, and advanced components
- DF/Signoise™	Signal integrity
- DF/Thermax™	Thermal
- DF/Viable™	Reliability
- DF/EMControl™	Electromagnetic compliance
BoardQuest™	High-speed system design planning
The Analog Artist™ series	Simulation, layout and verification tools for chip design
- Spectre™HDL	Analog behavioral simulation system for analog and mixed-signal appl.
- Spectre™RF	Simulation software for design of radio frequency applications
- Analog Workbench™	Analog system and board-level design
Electronic Systems Design Automation Products	
Signal Processing Workbench®	Top-down design automation software
EnWave™, EnVision™	Application-specific system-level design suites

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Cadence's Professional Services organization offers technical and consulting experts to provide:

- Design methodology and process reviews to determine how to compress design cycles, reduce iterations, reduce costs, or enable new design processes
- Library and data management consulting to facilitate design efficiency, re-use, enabling of variant design styles, and support of enterprise-wide data and release management
- Design services, including complete or partial design responsibility from specification to tape-out, as well as turnkey IC design services through Cadence's design group in San Diego

Marketing and Sales

Approximately 29% of Cadence's total work force is engaged in field sales and sales support.

In North America, Cadence uses a direct sales force consisting of sales people and applications engineers to license its products. The selling cycle is generally long, with three to six months being typical. Activities during this sales cycle typically consist of a technical presentation, a product demonstration, a design benchmark, and often, an on-site customer evaluation of Cadence software.

In Europe and Asia, Cadence markets and supports its products primarily through 15 majority-owned subsidiaries. Cadence also serves its international customers through distributors in various countries throughout Europe and the Asia/Pacific region.

Cadence licenses its IC products in Japan primarily through a distributor—Innotech Corporation. In 1995, 1994, and 1993, Innotech accounted for 15%, 10%, and 13% of total revenue, respectively.

Cadence's systems products are marketed in Japan through a majority-owned subsidiary.

Alliances

Through Cadence's Connections Program, the company cooperates with other design automation vendors so its customers can more easily integrate Cadence products and technologies with other companies' products and technologies. To date, more than 100 companies have integrated their tools with Cadence's software.

During the first quarter of 1996, Cadence announced an agreement with Mentor Graphics to provide reciprocal access to each other's tools.

Cadence has announced the first step in a similar reciprocal agreement with Synopsys, Inc.

Cadence has working relationships with a number of semiconductor manufacturers and electronic system companies based on a business partnership model to ensure that research and development activities and finished products meet customers' needs.

Cadence supports EDA research by sharing its design automation technology and expertise with more than 500 universities worldwide.

The company also has a dedicated advanced research organization, Cadence Labs, based in Berkeley (CA) and expanding to Europe in 1996.

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Competitors

Major competitors include Mentor Graphics, Synopsys, Viewlogic Systems, Inc., and Zuken-Redac.

Assessment

Cadence's strengths include:

- Large installed base of users
- Three- to four-year head start in offering a total solution, results-oriented approach to electronic design
- Strong portfolio of software tools and commitment to research and development

Challenges include:

- Managing the company's rapid growth
- Maintaining technological edge with software product line
- Continuing to align the industry with its new business model

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CADENCE DESIGN SYSTEMS, INC.

555 River Oaks Parkway
San Jose, CA 95134
Phone: (408) 943-1234
Fax: (408) 943-0513

President & CEO:	Joseph B. Costello
Status:	Public Corporation
Stock Exchange:	NYSE
Total Employees:	2,500 (12/92)
Total Revenue:	$434,500,000
Fiscal Year End:	12/31/92

Key Points

- Cadence Design Systems is one of the ten largest software companies in the world and the worldwide leader in providing electronic design automation (EDA) software and services in support of electronic systems design.
- The major advantages of Cadence products are in the areas of design methodologies, frameworks, and integration of electrical and physical design tools.
- Cadence's commitment to industry standard hardware platforms, operating systems, and networking protocols allows users to configure an open design environment tailored to their specific needs. As design needs grow, the Cadence design environment can be expanded to include additional Cadence tools or third-party tools.
- In December 1991, Cadence merged with one of its largest competitors, Valid Logic Systems, adding over $150 million in annual revenue and 900 employees.

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Company Description

Cadence Design Systems, Inc. develops, markets, and supports electronic design automation (EDA) application software products for the electrical and physical design of complex integrated circuits (ICs), printed circuit boards (PCBs), and systems. Cadence's products are used by engineers in the semiconductor, computer, telecommunications, aerospace, defense, and customer industries.

Strategy

Cadence's goal is to provide technology that accelerates the creation of innovative electronic products, enabling designers to bring complex products to market quickly and reliably. To meet this goal consistently, Cadence has adopted the following core product strategies:

- Focus development efforts on the most complex and time-consuming aspects of the design process
- Provide full integration of leading edge tools into a unified environment
- Deliver solutions that combine software tools, open standards-driven framework and advanced design methodologies to streamline the overall design process

Company History/ Acquisitions

Cadence was founded in 1988 as a result of a merger between ECAD, Inc. and SDA Systems, Inc.

- ECAD, founded in 1983, developed the DRACULA® family of layout verification products and the SYMBAD® family of layout design products.
- SDA, founded in 1983, developed the EDGE™ family of interactive IC CAD tools based on the first commercial framework, Design Framework.

In March 1989, Cadence acquired Tangent Systems Corporation of San Jose (CA) from Intergraph Corporation. Tangent provided CAD software products for the automated design of ICs. The acquisition was accounted for as a purchase.

In December 1989, Cadence completed the acquisition of Gateway Design Automation Corporation of Lowell (MA), a supplier of EDA digital logic simulation and analysis products. The merger was accounted for as a pooling of interests.

In July 1990, Cadence acquired Automated Systems, Inc. (ASI) of Milwaukee (WI) for approximately 975,000 shares of Cadence common

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stock in a pooling-of-interests transaction. ASI provides complex printed circuit board (PCB) design software products.

In December 1990, Cadence acquired the Thermax[R] thermal analysis technology from Helios Software Ltd.

In December 1991, Cadence acquired Valid Logic Systems Incorporated of San Jose (CA) for approximately 10.8 million shares of Cadence common stock and 86,000 shares of Cadence preferred stock.

- Valid Logic, founded in 1981, provided a full line of EDA software products used to design electronic systems, PCBs, and applications for electronic product designs involving advanced packaging technology such as hybrids and multichip modules (MCMs).
- Valid Logic had about 900 employees at the time of the acquisition and 1990 revenue of $158.5 million.
- Previous to its merger with Cadence, Valid Logic acquisitions included Integrated Measurements Systems (provider of verification systems used in testing prototype application specific integrated circuits--or ASICs), Analog Design Tools (provider of CAE software for analog electronic circuit design), and the IC CAD business of Calma Company.

In March 1992, Cadence acquired C.I.C., Inc., a joint venture between C. Itoh and Innotech that distributes Cadence's EDA software in Japan. The acquisition consolidated Cadence's systems product marketing in Japan using its subsidiary in Japan, Cadence Design Systems K.K.

Financials

Cadence's total 1992 revenue reached $434.5 million, an 11% increase over 1991 revenue of $391.6 million. Net income reached $55.4 million, compared to net losses of $22.4 million for 1991.

- In the five-year summary that follows, financials have been restated to reflect the pooling-of-interests acquisitions of Valid Logic in 1991, ASI in 1990, and Gateway in 1990.
- Results for 1991 including restructuring costs of approximately $49.9 million associated with the merger of Valid Logic with Cadence.
- Results for 1990 include restructuring charges of about $38.0 million associated with Valid Logic's withdrawal from its hardware distribution business.

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CADENCE DESIGN SYSTEMS, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR				
ITEM	1992	1991	1990	1989	1988
Revenue	$434.5	$391.6	$389.1	$333.7	$232.9
· Percent change from previous year	11%	1%	17%	43%	N/A
Income (loss) before taxes and extraordinary items	$68.3	$(12.2) (a)	$11.7 (a)	N/A	N/A
· Percent change from previous year	660%	(204%)	N/A	N/A	N/A
· Gross margin	16%	--	3%	N/A	N/A
Net income (loss)	$55.4	$(22.4)	$(9.3)	$36.2	$22.5
· Percent change from previous year	347%	(141%)	(126%)	61%	N/A
· Net margin	13%	--	--	11%	6%
Earnings (loss) per share	$1.20	$(0.57)	$(0.26)	$0.87	$0.60
· Percent change from previous year	111%	(119%)	(130%)	45%	N/A

(a) Includes restructuring charges of $49.9 million in 1991 and $38.0 million in 1990.

Product revenue increased $26.6 million, or 9%, in 1992 primarily due to increased volume of Cadence's products and the reduced impact of adverse and uncertain economic conditions in 1992 as compared to 1991. Because of the company's strategy to integrate the Valid Logic front-end system some deferral of system product orders occurred in the first quarter of 1993.

- IC design software product revenue grew 27% due to the increased demand for digital IC products such as custom layout and ASIC place and route and analog IC products, including a new mixed-signal simulation product.
- In the top-down design area, Cadence had estimated 1992 revenue of about $86 million primarily from simulation and synthesis software products, an increase of approximately 25% from the previous year.
- Systems design software revenue declined 11% from 1991.

Maintenance revenue increased $16.3 million, or 19% during 1992 due in part to the company's continued effort toward obtaining customer renewals of maintenance coverage.

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A three-year summary of source of revenue follows:

CADENCE DESIGN SYSTEMS, INC.
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	1992		1991		1990	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Software products	$330.8	76%	$304.2	78%	$319.1	82%
Maintenance	103.7	24%	87.4	22%	70.0	18%
TOTAL	**$434.5**	**100%**	**$391.6**	**100%**	**$389.1**	**100%**

Alliances

Cadence cooperates with other design automation vendors to deliver full-scope technology to its customers.

- Through Cadence's Connections™ Program, participating companies can integrate their products and technologies more easily into Cadence's design framework. This provides customers with the flexibility to mix and match third-party and proprietary tools to specifically meet their design automation needs.
- Currently over 60 companies have integrated their tools into Cadence's design framework.

Cadence also has established relationships with a number of semiconductor manufacturers and electronic systems companies related to research and development efforts.

Employees

As of December 31, 1992, Cadence had 2,500 employees (2,031 U.S. and 469 international), segmented as follows:

Sales, marketing, support, and manufacturing	1,550
Product development	648
Management, administration, and finance	302
	2,500

The company currently has 2,400 employees.

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Competitors

Cadence's primary competitors, by product area, include the following:

- Custom IC design tools and systems solutions: Mentor Graphics and Seiko
- Systems design: Mentor Graphics, Racal-Redac, and Viewlogic
- ASIC design: Synopsys

Key Products and Services

Cadence's line of integrated EDA software solutions supports individual engineers' specific design needs as well as teams of engineers working on larger projects.

Cadence offers integrated EDA solutions for three basic design areas:

- IC design for digital, analog, and mixed-signal devices
- System design for both digital and analog systems
- ASIC (application specific integrated circuits) design, particularly for high-performance sub-circuit ASICs

These three areas include solutions for the electrical and physical design of all types of systems, subsystems, and ICs, including PCBs, MCMs, hybrids, ASICs, PLDs, FPGAs, and full custom and semi-custom ICs.

A two-year summary of source of revenue by product line follows:

	FISCAL YEAR	
PRODUCT LINE	1992	1991
IC Design	49%	43%
Systems Design	22%	28%
ASIC Design	20%	18%
Other	9%	11%
TOTAL	**100%**	**100%**

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Software Products:

Cadence's product lines consist of individual software packages or tools (shown in the exhibit) that can be integrated through Cadence's proprietary Design Framework II™ software architecture.

- The Design Framework II architecture features a single common data structure for all of the tools, a consistent human interface, the SKILL™ extension language, support of industry standard software features (X-Windows, Motif), portability to industry standard workstations, and open-system capabilities that allow users to customize and enhance the system.

- Cadence's software operates on industry standard workstations from DEC, HP/Apollo, IBM, and Sun Microsystems.

Cadence offers its software, combined with framework technology and advanced design methodologies to provide productive and complete EDA solutions as follows:

IC Design:

Cadence's IC solutions feature proven tools for custom library development and editing, automated custom design, advanced digital and analog simulation, and IC physical verification. Building on this full line of IC tools, Cadence offers complete, front-to-back solutions for designing digital, analog, mixed signal, and microwave ICs.

For each step in the IC design process Cadence provides a complete design environment to meet individual design tasks. Cadence's solution includes the Virtuoso family of custom layout tools supporting polygon layout, symbolic layout, and layout synthesis; the Ensemble family providing automatic place and route for both ASIC and custom cell-based design styles; Compose for multi-layered block placement and routing; the Diva product family of interactive verification tools; and the DRACULA family of physical verification tools.

For analog designers, Cadence offers complete front-to-back solutions for analog, mixed-signal, and microwave circuits. The Analog Artist for IC design provides advanced simulation layout and verification, featuring products like the Profile behavioral modeling and simulation software and the Spectre high-speed circuit simulator.

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EXHIBIT

CADENCE DESIGN SYSTEMS, INC.
SOFTWARE TOOLS

PRODUCT	DESIGN PROCESS
Allegro™ and Prance-XL™	Board and MCM layout
DFSignal Integrity™, DFThermax™, and DFViable™	Integrated layout analysis
Analog Artist™ and Analog Workbench™	Analog integrated circuit and system design
Composer™ and Concept™	Design entry environments
Design Framework II™	Framework technology
Dracula® and Diva™	Verification
Gate Ensemble™, Cell Ensemble™, and Block Ensemble™	Gate-array place and route
Preview™	ASIC and IC floor planning
Profile™	Analog behavioral language
Spectre™, Cadence Spice™, and SpicePlus™	Analog simulation
Synergy™ family	Circuit synthesis and optimization
Verilog-XL™ and Leapfrog™ VHDL	Top-down digital simulation
Virtuoso™ products	Custom IC layout and library development

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System Design:

Cadence provides complete, front-to-back digital and analog system design solutions built around the Concept design entry system, the Verilog-XL and Leapfrog VHDL simulators; and the Allegro PCB/MCM physical design system.

For analog board and system design, Cadence provides the Analog Workbench, a design system for top-down, front-to-back analog design.

ASIC Design:

Cadence offers a complete top-down design system built on its Verilog-XL simulator and Verilog HDL design language.

The flexible environment includes Composer mixed-level design entry; large-capacity, high-performance logic synthesis and optimization with Synergy Synthesizer and Optimizer synthesis software; integrated mixed-level logic simulation with Verilog-XL and Leapfrog VHDL verification tools; and the Preview floorplanner than enable the sharing of consistent timing data from design entry through place and route.

Cadence's list of over 135 ASIC libraries and endorsements from major ASIC vendors help ensure a production path for the most complex leading edge ASIC designs.

Support Services:

Cadence assists in tailoring new tools to a customer's existing design environment, trains designers how to best use their EDA software, and provides ongoing software updates to enhance product capabilities.

Cadence's customer response centers give Cadence customers worldwide access to solution and product experts.

Cadence Consulting provides consulting regarding customized design automation systems.

Industry Markets

Cadence's revenue is derived from the electronics manufacturing industry. Customers include computer manufacturers, consumer electronics companies, defense electronics companies, merchant semiconductor manufacturers, ASIC foundries, and telecommunications companies.

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Geographic Markets

Approximately 50% of Cadence's 1992 revenue was derived from the U.S., 32% from Asia and 18% from Europe. A three-year source of revenue summary follows:

CADENCE DESIGN SYSTEMS, INC.
THREE-YEAR GEOGRAPHIC SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	1992		1991		1990	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
U.S.	$219.1	50%	$194.0	50%	$193.4	50%
International	215.4	50%	197.6	50%	195.7	50%
TOTAL	**$434.5**	**100%**	**$391.6**	**100%**	**$389/1**	**100%**

Domestic sales offices are located in Irvine, Los Angeles, San Diego, and San Jose (CA); Englewood (CO); Orlando (FL); Phoenix (AZ); Colorado Springs (CO); Hoffman Estates (IL); Chelmsford (MA); Columbia (MD); Ann Arbor (MI); Arden Hills (MN); Cary (NC); Edison (NJ); Fairport, Fishkill, and Melville (NY); Beachwood (OH); Portland (OR); Austin and Irving (TX); and Bellevue (WA).

International subsidiaries are located in Canada, France, Japan, Germany, Hong Kong, Israel, Italy, Korea, the Netherlands, Taiwan, Singapore, Sweden, Switzerland, and the U.K.

Cadence also has international distributors in Australia, Brazil, China, Hong Kong, India, Japan, and Singapore.

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CADENCE DESIGN SYSTEMS, INC.
555 River Oaks Parkway
San Jose, CA 95134
(408) 943-1234

Joseph B. Costello, President and CEO
Public Corporation, NYSE
Total Employees: 1,676 (12/90)
Total Revenue, Fiscal Year End 12/31/90: $231,433,000

The Company

Cadence Design Systems, Inc. develops, markets, and supports electronic design automation (EDA) application software products for the electrical and physical design of complex integrated circuits (ICs), printed circuit boards (PCBs), and systems. Cadence's products are used by engineers in the semiconductor, computer, telecommunications, aerospace, defense, and customer industries.

Cadence was founded in 1988 as a result of a merger between ECAD, Inc. and SDA Systems, Inc.

- ECAD, founded in 1983, developed the DRACULA® family of layout verification products and the SYMBAD® family of layout design products.
- SDA, founded in 1983, developed the EDGE™ family of interactive IC CAD tools based on the first commercial framework, Design Framework.

In July 1990, Cadence acquired Automated Systems, Inc. (ASI) of Milwaukee (WI) for approximately 975,000 shares of Cadence common stock. The acquisition was accounted for as a pooling of interests.

- ASI provides complex printed circuit board (PCB) design software products. Revenue for the fiscal year ending June 30, 1989 was $15 million.
- The operations of ASI have been merged into Cadence's Systems Division.

Other acquisitions include the following:

- In December 1990, Cadence acquired the Thermax® thermal analysis technology from Helios Software Ltd.

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- In December 1989, Cadence completed the acquisition of Gateway Design Automation Corporation of Lowell (MA), a supplier of EDA digital logic analysis software products. The merger was accounted for as a pooling of interests. The operations of Gateway have been merged into the Cadence CAE Division.

- In March 1989, Cadence acquired Tangent Systems Corporation of San Jose (CA) from Intergraph Corporation. Tangent provided CAD software products for the automated design of ICs. The acquisition was accounted for as a purchase. Tangent has merged with Cadence's IC Division.

Cadence is currently organized into four divisions as follows:

- The Integrated Circuit (IC) Division, headquartered in San Jose (CA), offers a range of IC design automation tools that provide an integrated start-to-finish solution for IC design.

- The Systems Division and Consulting Services, headquartered in San Jose (CA), markets and supports high-performance software products for the design, verification, analysis, and layout of complex PCBs and systems.

- The Analog Division, headquartered in Santa Clara (CA), markets and supports software products for the analog IC designer.

- The CAE Division, headquartered in Santa Clara (CA), develops and markets logic design and analysis tools for the design of ICs, ASICs, PCBs, and systems.

Cadence's total 1990 revenue reached $231.4 million, a 45% increase over 1989 revenue of $159.9 million. Net income rose 45%, from $26.2 million in 1989 to $38 million in 1990. In the five-year summary that follows, financials have been restated to reflect the pooling-of-interests acquisition of ASI in 1990 and Gateway in 1989.

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CADENCE DESIGN SYSTEMS, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR				
ITEM	1990	1989	1988	1987	1986
Revenue	$231.4	$159.9	$91.8	$56.2	$35.7
· Percent increase from previous year	45%	74%	63%	57%	N/A
Income before taxes and extraordinary items (a)	$56.3	$40.8	$21.5	N/A	N/A
· Percent increase from previous year	38%	90%	N/A	N/A	N/A
· Gross margin	24%	25%	23%	22%	--
Net income (loss)	$38.0	$26.2	$14.7	$6.6	$(3.5)
· Percent increase from previous year	45%	78%	123%	289%	N/A
· Net margin	16%	16%	16%	12%	--
Earnings (loss) per share	$1.19	$0.85	$0.53	$0.26	$(0.17)
· Percent increase from previous year	40%	60%	104%	253%	N/A

(a) Includes merger costs of $800,000 associated with the acquisition of ASI in July 1990, $1.7 million associated with the acquisition of Gateway in December 1989, and $2.6 million associated with the merger of ECAD and SDA during 1988.

Cadence management attributes 1990 revenue growth to the increased acceptance of its products by semiconductor and electronic systems companies.

- The major portion of these increases ($57.2 million) resulted directly from an increase in the licensing of Cadence's products.
- The acquisition of Tangent in 1989 also contributed to the increase in revenue during 1990 and 1989. Revenue from Tangent-related products was $21.4 million (9% of total revenue) in 1990 and $12.3 million (8% of total revenue) in 1989.
- A full year of analog product revenue is included in 1990 results. The Analog Division was in a start-up phase in 1989 and had minimal revenue.
- Cadence signed three technology agreements in 1990, six in 1989, and two in 1988.
- Maintenance revenue increased 61% during the year as the company's installed base of products increased.

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- Revenue from international sources rose to $112.3 million in 1990, compared to $64.5 million in 1989, and $33.0 million in 1988.

Revenue for the three months ending March 31, 1991 was $59.4 million, a 18% increase over $50.2 million for the same period in 1990. Net income was $6.5 million, compared to $8.4 million for the same period a year ago.

- Revenues in Europe and the U.S. fell short of expectations due to the Persian Gulf war and a deepening recession, causing customers to postpone product purchases.

As of December 31, 1990, Cadence had 1,676 employees (1,446 U.S. and 230 international), segmented as follows:

Sales, marketing, support, and manufacturing	971
Product development	541
Management, administration, and finance	164
	1,676

Cadence's primary competitors, by product area, include the following:

- Custom IC design tools and systems solutions: Mentor Graphics, Valid Logic, and Seiko
- Analog design tools: Valid Logic
- Systems design: Mentor Graphics, Valid Logic, and Racal-Redac

Key Products and Services

A three-year summary of source of revenue follows:

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CADENCE DESIGN SYSTEMS, INC.
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	1990		1989		1988	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Software products	$193.4	84%	$136.2	85%	$79.0	86%
Maintenance	38.0	16%	23.7	15%	12.8	14%
TOTAL	**$231.4**	**100%**	**$159.9**	**100%**	**$91.8**	**100%**

A two-year summary of source of revenue by product line follows:

	FISCAL YEAR	
PRODUCT LINE	1990	1989
IC	48%	60%
Systems	40%	29%
Analog	6%	2%
Other	6%	9%
TOTAL	100%	100%

Cadence's product lines consist of individual software packages or tools that are integrated through Cadence's proprietary Design Framework II™ software architecture.

- The Design Framework II architecture features a single common data structure for all of the tools, a consistent human interface, the SKILL™ extension language, support of industry standard software features (X-Windows, Motif), portability to industry standard workstations, and open-system capabilities that allow users to customize and enhance the system.

- Cadence's interactive product families currently operate on workstations from DEC, HP/Apollo, Intergraph, IBM, NEC, Silicon Graphics, Solbourne, Sony, and Sun.

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IC Design Automation Tools:

Cadence's line of IC design tools combines products originally developed by ECAD, SDA, and Tangent, as well as new products. Today, the company offers more than 40 major design tools that are integrated through the Design Framework II.

- Product families include the Virtuoso™ family of custom layout tools supporting polygon layout, symbolic layout, and layout synthesis; the Ensemble™ family providing automatic place and route for both ASIC and custom cell-based design styles; the Diva™ family of interactive verification tools; and the DRACULA® family of standalone batch-mode IC layout verification products.

Systems Products:

Cadence's Systems Division is developing products targeted to board-level designers in electronic systems companies. The product strategy is to improve engineering productivity by providing high-performance PCB design tools in an integrated environment.

- PRANCE®, acquired with Automated Systems, is a PCB design system capable of handling high-speed, multiple-layer printed circuit boards.

- Thermax-3D is a high-speed thermal analysis tool that offers three-dimensional modeling capabilities and comprehensive library support.

- Cadence also markets and supports Design for Manufacturability (DFM) and Design for Test (DFT) technology developed and used extensively by AT&T.

Analog Products:

The Analog Artist™ Design System, introduced in November 1989, serves the analog IC designer with a front-to-back design automated system. The product has been integrated using the Design Framework II architecture and selected Cadence tools.

The Analog Artist™ Microwave Design System is the first commercial solution that provides engineers with highly integrated design automation tools for the development of microwave circuits and systems.

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CAE Tools:

Cadence's CAE Division develops and supports the front-end design environment that drives the various front-to-back solutions the company offers. Tools for design entry, mixed-level simulations, logic synthesis, timing analysis, and test enable engineers to analyze the feasibility of their design concepts, evaluate different approaches in a short time, and identify and correct design errors early in the development process.

- The Verilog® series of software simulation and analysis products--including Verilog-XL, Verifault, and Veritime--are used for the design, verification, and testing of complex digital electronic circuits and systems.

- VHDL-XL forms the foundation for Cadence's VHDL design environment, which includes simulation, synthesis, timing analysis,and comprehensive model support.

- HDL Synthesizer & Optimizer offers design synthesis and optimization capabilities and provides a critical step in the top-down design approach.

- Veritime is an accurate timing analysis tool that ensures timing information is thoroughly analyzed and communicated between logic design and layout.

- XL Processor is a simulation coprocessor that accelerates Cadence's software simulators, Verilog-XL and VHDL-XL, by as much as 15 times.

License fees for Cadence software products range from approximately $10,000 to $250,000. Cadence generally requires a first-year maintenance agreement and offers annual maintenance agreements thereafter.

- The current annual maintenance charge for most products is 12% of the then current list price of the software. The current annual maintenance charge for mainframe versions of DRACULA products for the IBM/MVS environment is 20% of their then current list prices.

Cadence also has various partnerships with a number of semiconductor manufacturers and electronic systems companies to provide extended support and customization services, joint product development, and HOE agreements.

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Industry Markets

Cadence's revenue is derived from the electronics manufacturing industry. Customers include computer manufacturers, consumer electronics companies, defense electronics companies, merchant semiconductor manufacturers, ASIC foundries, and telecommunications companies.

Geographic Markets

Approximately 51% of Cadence's 1990 revenue was derived from the U.S. and the remaining 49% from international sources, including exports. A three-year summary of source of revenue follows:

CADENCE DESIGN SYSTEMS, INC.
THREE-YEAR GEOGRAPHIC SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	1990		1989		1988	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
U.S.	$119.1	51%	95.4	60%	$58.8	64%
International						
- Exports/Asia	70.0	30%	43.9	27%	20.3	22%
- Exports/Europe	6.0	3%	8.1	5%	5.1	6%
- European operations	30.2	13%	9.7	6%	5.1	6%
- Asian operations	6.1	3%	2.8	2%	2.5	2%
TOTAL	$231.4	100%	$159.9	100%	$91.8	100%

Domestic sales offices are located in San Jose and Irvine (CA), Mesa (AZ), Austin and Irving (TX), Englewood (CO), Orlando (FL), Edison (NJ), Minneapolis (MN), Columbia (MD), Andover (MA), Fairport (NY), Mequon (WI), Rosewell (GA), Portland (OR), and Bellevue (WA).

International subsidiaries are located in France, Germany, Sweden, the U.K., Japan, Hong Kong, Israel, and Taiwan. A branch office is located in Korea.

Cadence also serves its international customers through direct sales in Europe, full-service distributors in Japan (Innotech and C.I.C.), a full-service distributor in Korea (Daou Technology), and Sapphire Systems & Services in Bombay, India.

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CADENCE DESIGN SYSTEMS, INC.
555 River Oaks Parkway
San Jose, CA 95134
(408) 943-1234

Joseph B. Costello, President and CEO
Public Corporation, NASDAQ
Total Employees: 978 (12/89)
Total Revenue, Fiscal Year End
12/31/89: $148,836,000

The Company

Cadence Design Systems, Inc. develops, markets, and supports electronic design automation (EDA) application software products for the electrical and physical design of complex integrated circuits (ICs), printed circuit boards (PCBs), and systems. Cadence's products are used by engineers in the computer, consumer electronics, defense electronics, merchant semiconductor, application-specific integrated circuit (ASIC), and telecommunications industries. Cadence also has technology agreements with several customers for product development and support.

Cadence was founded as a result of a merger between ECAD, Inc. and SDA Systems, Inc. In May 1988, ECAD acquired SDA for approximately 10.5 million shares of ECAD common stock. The merger was accounted for as a pooling of interests. On June 1, 1988 the company name was changed to Cadence Design Systems, Inc.

- ECAD, founded in 1983, developed the DRACULA^{R} family of layout verification products and the SYMBAD^{R} family of layout design products.

- SDA, founded in 1983, developed the EDGETM family of interactive IC CAD tools.

In March 1989, Cadence acquired Tangent Systems Corporation of San Jose (CA) from Intergraph Corporation for 1.6 million shares of Cadence common stock.

- Tangent, with approximately 60 employees, provided CAD software products for the automated design of ICs.

- The acquisition was accounted for as a purchase. Tangent-related products contributed $12.3 million to Cadence's 1989 revenue.

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In December 1989, Cadence completed the acquisition of Gateway Design Automation Corporation of Lowell (MA) for approximately four million shares of Cadence common stock.

- Gateway, a supplier of EDA digital logic simulation software products, had 167 employees at the time of the acquisition. For 1989, Gateway's revenue was $21 million and net income was $3.6 million.

- The merger was accounted for as a pooling of interests and accordingly, Cadence's financials for all periods have been restated to include the results of Gateway.

- Gateway now operates as the Cadence Advanced CAE Division.

In April 1990, Cadence announced a proposed merger with Automated Systems, Inc. (ASI) of Milwaukee (WI) for approximately one million shares of Cadence common stock.

- ASI provides complex printed circuit board (PCB) design software products. Revenue for the fiscal year ending June 30, 1989 was $15 million.

- Under the terms of the agreement, ASI will merge into Cadence in a transaction that will be accounted for as a pooling of interests. The merger was completed in July 1990.

Cadence's total 1989 revenue reached $142.8 million, an 82% increase over 1988 revenue of $78.6 million. Net income for 1989 was $27.8 million, compared to $16 million for 1988. In the five-year summary that follows, financials have been restated to reflect the pooling-of-interests acquisition of Gateway.

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CADENCE DESIGN SYSTEMS, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ millions, except per share data)

	FISCAL YEAR				
ITEM	1989	1988	1987	1986	1985
Revenue	$142.8	$78.6	$44.8	$23.1	$16.1
• Percent increase from previous year	82%	76%	93%	44%	N/A
Income (loss) before taxes and extraordinary items	$42.3 (a)	$23.4 (b)	$10.0	N/A	N/A
• Percent increase (decrease) from previous year	81%	134%	N/A	N/A	N/A
• Gross margin	30%	30%	22%	--	--
Net income (loss)	$27.8	$16.0	$6.9	$(4.5)	$(4.2)
• Percent increase (decrease) from previous year	74%	132%	253%	(7%)	N/A
• Net margin	19%	20%	15%	--	--
Earnings (loss) per share	$0.93	$0.59	$0.28	$(0.23)	$(0.29)
• Percent increase (decrease) from previous year	58%	111%	222%	21%	N/A

(a) Includes merger costs of $1.7 million associated with the acquisition of Gateway in November 1989.

(b) Includes costs of $2.6 million associated with the merger of ECAD and SDA during 1988.

Cadence management attributes 1989 revenue growth to the increased acceptance of its products by a wide range of electronics companies.

- Product license revenue increased 83% during 1989.
- The company expanded its sales offices both domestically and internationally during the year. International revenue was $63.6 million in 1989, compared to $33 million in 1988 and $19.8 million in 1987.
- Revenue generated from Tangent-related products contributed $12.3 million, or nearly 9%, to total 1989 revenue.

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- Maintenance revenue increased 86% during the year as the company's installed base of products increased.

- Revenue from technology agreements increased 60% in 1989. During the year, Cadence signed six technology agreements, compared with two agreements in 1988 and three agreements in 1987.

Revenue for the three months ending March 31, 1990 reached $46.1 million, a 58% increase over $29.3 million for the same period in 1989. Net income rose 43%, from $6.3 million to $9 million.

As of December 31, 1989, Cadence had 978 employees (866 U.S. and 112 international). The company currently has 998 employees, segmented as follows:

Sales, marketing, and support	490
Product development	379
Management, administration, operations, and finance	129
	998

Cadence's primary competitors, by product area, include the following:

- Custom IC design tools and systems solutions: Mentor Graphics and Valid Logic

- Analog design tools: Valid Logic

Key Products and Services

A three-year summary of source of revenue follows:

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CADENCE DESIGN SYSTEMS, INC.
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	1989		1988		1987	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
Software products	$115.4	81%	$63.1	80%	$34.0	76%
Maintenance	19.2	13%	10.4	13%	6.7	15%
Technology agreements	8.2	6%	5.1	7%	4.1	9%
TOTAL	**$142.8**	**100%**	**$78.6**	**100%**	**$44.8**	**100%**

Cadence's product lines consist of individual software packages or tools, integrated through Cadence's proprietary Design Framework II™ software architecture.

- The Design Framework II architecture features a single common data base for all of the tools, a consistent human interface, the SKILL™ extension language, portability to industry standard workstations, and open system capabilities that allow users to customize and enhance the system.

- In June 1990, Cadence and DEC announced the formation of a joint development team to produce next generation framework technology.

- Cadence's interactive product families currently operate on workstations from DEC, HP/Apollo, Intergraph, MIPS, NEC, Sony, and Sun. The DRACULA product line is also available for IBM systems under VM/CMS and MVS/XA.

The Opus™ IC Design System, introduced in mid-1989, combines products originally developed by ECAD, SDA, and Tangent, as well as new products. Today, Opus is composed of more than 40 major design tools, all tied to the Design Framework II.

- Opus includes the DRACULA® family of standalone batch-mode IC layout verification products and the SYMBAD® family of IC layout design products, both originally developed by ECAD.

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- Opus also includes products from the Edge™ family of interactive IC design and verification, originally developed by SDA.

- The Tancell™ and Tangate™ place and route products (now Gate Ensemble™), originally developed by Tangent for cell-based and gate array ASIC designs, have also been added to the Opus product line.

Cadence's Analog Division, headquartered in Santa Clara (CA), is responsible for developing products for the analog IC designer.

- The Analog Artist™ Design System, introduced in November 1989, serves the analog IC designer with a front-to-back design automated system. The product has been integrated using the Design Framework II architecture and selected Cadence tools.

The Cadence Advanced CAE (ACAE) Division, headquartered in Lowell (MA), develops, markets, and supports the Verilog® and VHDL families of software simulation and analysis products for the design, verification, and testing of complex digital electronic circuits and systems, including ICs and PCBs.

Cadence's Systems Division, headquartered in Santa Clara (CA), is developing products targeted to ASIC and board-level designers in systems companies. The product strategy is to initially focus on providing design entry, multilevel simulation, logic synthesis, and PCB layout products to support a top-down design style. The products were introduced during the second quarter of fiscal 1990.

Cadence's Microwave Division, headquartered in Santa Clara (CA), develops solutions for designers of RF, microwave, and millimeter wave circuits and systems.

- The Microwave Musician™ is the first commercial solution that provides engineers with highly integrated design automation tools for the development of microwave circuits and systems.

License fees for Cadence software products range from approximately $20,000 to $250,000. Cadence generally requires a first-year maintenance agreement and offers annual maintenance agreements thereafter.

- The current annual maintenance charge for most products is 12% of the then current list price of the software. The current annual maintenance charge for mainframe versions of DRACULA products for the IBM/MVS environment is 20% of their then current list prices.

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Cadence also has various partnerships with a number of semiconductor manufacturers and electronic systems companies to provide extended support and customization services, for joint product development, and OEM agreements.

Industry Markets

Cadence's revenue is derived from the electronics manufacturing industry. Customers include computer manufacturers, consumer electronics companies, defense electronics companies, merchant semiconductor manufacturers, ASIC foundries, and telecommunications companies.

Cadence also markets its DRACULA products through OEMs. Sales through OEMs represented approximately 4%, 4%, and 5% of total revenue for 1989, 1988, and 1987, respectively.

Geographic Markets

Approximately 56% of Cadence's 1989 revenue was derived from the U.S. and the remaining 44% from international sources, including exports. A three-year summary of source of revenue follows:

CADENCE DESIGN SYSTEMS, INC.
THREE-YEAR GEOGRAPHIC SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	1989		1988		1987	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
U.S.	$79.2	56%	$45.6	58%	$25.1	56%
International						
- Exports/Asia	43.0	30%	20.3	26%	10.4	23%
- Exports/Europe	8.1	5%	5.1	6%	3.5	8%
- European operations	9.7	7%	5.1	6%	4.5	10%
- Asian operations	2.8	2%	2.5	3%	1.3	3%
TOTAL	**$142.8**	**100%**	**$78.6**	**100%**	**$44.8**	**100%**

Domestic sales offices are located in San Jose and Irvine (CA), Mesa (AZ), Irving (TX), Englewood (CO), Orlando (FL), Edison (NJ), Arden Hills (MN), Columbia (MD), Andover and Lowell (MA), Portland (OR), and Bellevue (WA).

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International subsidiaries are located in France, West Germany, Sweden, the U.K., Japan, Hong Kong, Israel, and Taiwan. A branch office is located in Korea.

Cadence also serves its international customers through direct sales in Europe, full-service distributors in Japan (Innotech and C.I.C.), a full-service distributor in Korea (Daou Technology), and Sapphire Systems and Services in Bombay, India.

- Innotech accounted for 15% of Cadence's total 1989 revenue.

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CADENCE DESIGN SYSTEMS, INC.
(formerly ECAD, Inc. and SDA Systems, Inc.)
555 River Oaks Parkway
San Jose, CA 95134
(408) 943-1234

Glen M. Antle, Co-Chairman
James E. Solomon, Co-Chairman
Joseph B. Costello, President and CEO
Public Corporation, OTC
Total Employees: 359 (9/88)
Total Revenue, Fiscal Year End
12/31/87: $40,418,000

The Company

Cadence Design Systems, Inc. develops, markets, and supports computer-aided design (CAD) application software products for the electrical and physical design of complex integrated circuits (ICs). Cadence's products are used by engineers in the computer, consumer electronics, defense electronics, merchant semiconductor, application-specific integrated circuit (ASIC), and telecommunications industries.

Cadence is the successor of ECAD, Inc. and SDA Systems, Inc. In May 1988, ECAD acquired SDA for approximately 10.5 million shares of ECAD common stock. The merger was accounted for as a pooling of interests. On June 1, 1988 the company name was changed to Cadence Design Systems, Inc.

- ECAD, founded in January 1983, developed the DRACULA^{R} family of layout verification products and the SYMBAD^{R} family of layout design products.
 - ECAD operated as a private company until June 1987 when it made an initial public offering of approximately 2.4 million shares of common stock.
 - The company, which has operated profitably since its inception, achieved revenue of $23.9 million for the fiscal year ending December 31, 1987.
- SDA, founded in 1983, developed the EDGETM family of interactive IC CAD tools.
 - As of January 1988, SDA had approximately 60 customers and approximately 450 installations of its software products at about 80 customer sites.

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- SDA operated as a private company until it was acquired by ECAD in May 1988.

- SDA's revenue reached $16.5 million for the fiscal year ending October 31, 1987. SDA experienced net losses during fiscal 1985 and 1986, but reported net income of over $2.7 million for fiscal 1987.

As a result of the pooling-of-interests acquisition of SDA by ECAD, the company's historical financials have been restated to combine the results of ECAD (for fiscal years ending December 31) with the results of SDA (for its fiscal years ending October 31). Effective January 1, 1988 Cadence's total results are reported on a calendar-year basis.

Cadence's total 1987 revenue reached $40.4 million, an 87% increase over 1986 revenue of $21.6 million. Net income for 1987 was $5.9 million, compared to net losses of $4.7 million for 1986. In the five-year summary that follows the financials for ECAD and SDA have been listed to show their relative contributions to Cadence's total results.

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CADENCE DESIGN SYSTEMS, INC.
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

	FISCAL YEAR				
ITEM	1987	1986	1985	1984	1983
Revenue					
• ECAD	$23,900	$16,591	$12,057	$5,679	$785
• SDA	16,518	5,018	1,317	123	12
	$40,418	$21,609	$13,374	$5,802	$797
• Percent increase from previous year	87%	62%	131%	628%	N/A
Income (loss) before taxes and extraordinary items					
• ECAD	$4,723	$ 2,344	$ 1,775	$1,647	$ 34
• SDA	3,649	(6,136)	(6,063)	(2,104)	(128)
	$8,372	$(3,792)	$(4,288)	$ (457)	$ (94)
• Percent increase (decrease) from previous year	321%	12%	(838%)	(386%)	N/A
Net income (loss)					
• ECAD	$3,164	$ 1,496	$ 1,258	$ 995	$ 16
• SDA	2,763	(6,181)	(6,063)	(2,105)	(128)
	$5,927 (a)	$(4,685)	$(4,805)	$(1,110)	$(112)
• Percent increase (decrease) from previous year	227%	2%	(333%)	(891%)	N/A
Earnings (loss) per share					
• ECAD	(b)	$ 0.17	$ 0.17	$ 0.16	--
• SDA	(b)	(0.45)	(0.56)	(0.27)	$(0.02)
	$0.29	$(0.28)	$(0.40)	$(0.11)	$(0.02)
• Percent increase (decrease) from previous year	204%	30%	(264%)	(450%)	N/A

(a) Includes an extraordinary credit of $718,000, or $0.04 per share, from utilization of operating loss carryforwards.

(b) Segmented numbers are not meaningful.

Cadence's revenue is primarily derived from the licensing of its software products, related maintenance contracts, and technology agreements.

- During 1987 the company first began entering into technology agreements with a limited number of customers for the

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licensing and transfer of certain technology, rights, and related support.

- A five-year summary of source of revenue follows:

CADENCE DESIGN SYSTEMS, INC.
FIVE-YEAR SOURCE OF REVENUE SUMMARY
($ thousands)

	FISCAL YEAR				
REVENUE SOURCE	1987	1986	1985	1984	1983
Software products (a)	$30,431	$18,808	$12,299	$5,435	$795
Maintenance	5,920	2,801	1,075	367	2
Technology agreements	4,067	–	–	–	–
TOTAL	**$40,418**	**$21,609**	**$13,374**	**$5,802**	**$797**

(a) Includes hardware sales of approximately $400,000, $1.3 million, and $400,000, for 1987, 1986, and 1985, respectively.

Cadence management attributes 1987 revenue growth to the following:

- Software license revenue increased 62% due to greater acceptance of the company's interactive products (EDGE and SYMBAD), higher customer orders for new versions of the DRACULA products, and upgrading of customers' existing DRACULA licenses to run the software on more powerful computer configurations.

- Maintenance revenue increased 111%, largely from the company's expanded installed base of DRACULA products, as well as price increases of 20% for certain DRACULA maintenance contracts.

- $4.1 million in revenue was generated from technology agreements.

During 1985 and 1986 SDA expended significant funds to complete its development of the first EDGE products and expand its marketing and sales organizations, resulting in losses from operations. The benefits derived from this development and expansion began to be realized in 1987, as shown by its contribution to net income and increased sales.

- Total research and development expenditures were approximately $8 million (20% of revenue) in 1987, $9.4 million

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(43% of revenue) in 1986, and $8.4 million (63% of revenue) in 1985.

- During 1986 and 1985, research and development expenditures incurred by ECAD were approximately $4.5 million and $3.7 million, respectively, while expenses incurred by SDA were approximately $4.9 million and $5.7 million for 1986 and 1985, respectively.

- Total marketing and sales expenses were approximately $14.8 million (37% of revenue) in 1987, $9.9 million (46% of revenue) in 1986, and $6.2 million (46% of revenue) in 1985.

 - The company expanded its marketing and sales personnel from 23 people in January 1985, to 127 people at June 30, 1988, and expanded its field sales from two domestic offices and one international office on January 1985 to seven domestic offices and four international offices on June 30, 1988.

Revenue for the nine months ending September 30, 1988 reached $46.4 million, a 65% increase over $28.2 million for the same period in 1987. Net income for the period reached $8.3 million (after a net charge of $1.9 million for merger costs), a 100% increase over $4.1 million (which includes an extraordinary credit of $535,000 from use of loss carryforward) for the same period a year ago.

As of September 30, 1988 Cadence had 359 employees (320 U.S. and 39 international), segmented as follows:

Sales, marketing, and support	128
Product development	129
Management, administration, operations, and finance	102
	359

Cadence's primary competitors, by product area, include the following:

- Custom IC design tools: CAECO, Mentor Graphics, and Valid Logic.

- Automatic place-and-route: Silvar-Lisco and Tangent Systems Corporation.

- Module generation: Seattle Silicon Corporation and Silicon Compiler Systems, Inc.

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Key Products and Services

Approximately 74% of Cadence's 1987 revenue was derived from application software products for IC design and verification, 15% from associated maintenance services and 10% from technology agreements. The remaining 1% of revenue was derived from hardware sales.

- Cadence does not market hardware, but will, at the specific request of a customer, sell turnkey systems consisting of Cadence software and third-party hardware.

Cadence currently offers three families of products, EDGE, SYMBAD, and DRACULA. A three-year summary of source of revenue by product line follows:

CADENCE DESIGN SYSTEMS, INC.
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	1987		1986		1985	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
DRACULA (a)	$19.4	48%	$15.8	73%	$12.0	90%
SYMBAD and EDGE (b)	19.0	47%	4.3	7%	0.9	7%
Hardware sales	0.4	1%	1.3	6%	0.4	3%
Other (c)	1.6	4%	0.2	1%	--	--
TOTAL	**$40.4**	**100%**	**$21.6**	**100%**	**$13.3**	**100%**

(a) Includes product licenses and associated maintenance fees.

(b) Includes product licenses, associated maintenance fees, and, for 1987, associated technology agreement revenue.

(c) Includes other product revenue and, for 1987, other technology agreement revenue.

- For the six months ending June 30, 1988, approximately 63% of revenue was derived from SYMBAD and EDGE and 33% from DRACULA.

A summary of Cadence's product families is presented in Exhibits A and B.

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EXHIBIT A

CADENCE SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION
EDGE	
CAE Tools	
- Graphics Schematics Editor	Graphically captures the design schematic.
- Simulation Environment	For coupling of new simulator/test tools into the system.
- SPICE and HSPICE (a)	Circuit simulators.
- SILOS Logic Simulator (a)	Switch and logic level IC simulator.
- HILO-3 Logic Simulator (a)	Gate and functional level logic simulator.
- Timing Analyzer (TA)	Used to find the worse case timing delay paths through an IC.
- SIMON	Used with DRACULA LPE to ensure that simulations using the physical representation of a design agree with the front-end design simulation.
Computer-Aided-Test (CAT) Tools	
- Simulation and Test Language	For developing functional test stimuli or pattern for simulations and tests.
- SCOAP	Public domain testability analyzer.
- SILOS Fault Simulator (a)	Performs test pattern evaluation.
- Tester Code Generator	Optimize, compress, and format test patterns.
Physical Layout Design (PD) Tools	
- EDGE Place-and-Route	Supports automatic layout of ICs.
- EDGE Layout	General purpose all-angle polygon editor.
- EDGE Structural Compiler	Used to build large regular block structures.
- Module Generator	A group of extensions to the SKILL language for module generator development.
Integrated Physical Design Verification (PDV) Tools	
- PDCHECK	Incremental and interactive physical design rule checker.
- PDEXTRACT	On-line tool to extract device, connectivity, and parasitic information from an IC layout.
- PDCOMPARE	Checks physical layout against a schematic diagram.
SYMBAD	
- Block Place and Route	Places physical blocks of logic and routes the electrical connections among blocks.
- Symbolic Verification	On-line verification of designs created by other SYMBAD modules.
- Object-Based Editor	Symbolic editor and compactor.
- Polygon-Based Editor	Polygon editor.
- Floor Planner	Supports development of optimum arrangement of blocks for minimum die size.
- SYMBAD Programming Language (SPL)	SYMBAD user programming language.

(a) Product is licensed from a third party.

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EXHIBIT B

CADENCE SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION
DRACULA	
- Design Rule Checker	Ensures that IC layout conforms to geometric mask design rules for semiconductor fabrication.
- Electrical Rules Checker	Ensures that layout describes a valid IC.
- Layout Versus Schematic	Compares logic and layout and reports discrepancies.
- Layout Parameter Extraction	Extracts actual electrical parameters from layout for simulating the IC design with real values.
- Pattern Generation	Converts layout into input from electron-beam or optical maskmaking machines.
- Layout Debugger	For interactive viewing of layout errors.
- Parasitic Resistance Extractor	Extracts interconnect resistance from layout. Results from LPE and PRE may be used with SIMON to simulate the entire IC.
- DRACULA Access	Permits DRACULA users to design their own programs using information from other DRACULA modules.
- DRACULA On-Line	For interactive design rule checking.

The EDGE family of products consists of a set of interactive IC CAD tools, which are integrated through a proprietary Design Framework software architecture.

- The Design Architecture features a single common data base for all of the EDGE tools, a consistent human interface, the SKILL user programming language, portability to industry standard workstations, and open system capabilities that allow users to customize and enhance the system.

- EDGE products run on workstations from Apollo, DEC, Massachusetts Computer Corp., and Sun Microsystems.

The SYMBAD family of layout design products provides an independent integrated environment for multiple layout design functions.

- SYMBAD runs on DEC VAX, MicroVAX II GPX, Apollo, and Sun Microsystems computers.

Cadence believes that its EDGE and SYMBAD product families are highly complementary. It is in the process of integrating the best products and features of these families into an enhanced version of the Design Framework architecture to provide a software system to address the overall IC design process.

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The DRACULA family of design verification products, first released in 1983, provides standalone batch-mode verification of IC designs.

- There are currently three versions of DRACULA, providing customers with a choice of performance features consistent with the needs of their application, design methodology, and manufacturing processes.
 - DRACULA I is directed toward users designing small circuits.
 - DRACULA II is used by designers of larger circuits in the range of 10,000 to 100,000 transistors.
 - DRACULA III uses a hierarchical approach for the design of medium to very large circuits that have considerable redundancy in their design.
- DRACULA runs on various systems, including DEC VAX systems under VMS and ULTRIX, IBM systems under VM/CMS and MVS/XA, and Sun and Apollo workstations.
- As of March 31, 1988, DRACULA products had been licensed to over 200 customers (excluding licenses granted by OEMs).

Cadence provides up to a 90-day warranty on all products and requires a first-year maintenance agreement; thereafter it offers annual maintenance agreements. Most customers renew their maintenance contracts.

- The current annual maintenance charge for most products is 12% of the then current list price of the software. The current annual maintenance charge for mainframe versions of DRACULA products for the IBM/MVS environment is 20% of their then current list prices.

Industry Markets

Cadence's revenue is derived from the manufacturing industry. The company's target markets include merchant semiconductor companies, dedicated ASIC foundries, and electronic systems companies with internal IC design capability.

The customer bases of ECAD and SDA had little overlap at the time of the merger. A large percent of SDA's business had been concentrated among a small number of customers and technology partners. In contrast, ECAD's DRACULA and SYMBAD

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product families had been targeted at a large number of customers in the computer, consumer electronics, defense electronics, merchant semiconductor, ASIC, and telecommunications industries.

Cadence also markets its DRACULA products through OEMs. Sales through OEMs represented approximately 6%, 11%, and 6% of total revenue for 1987, 1986, and 1985, respectively. OEMs include Mentor Graphics, Daisy Systems, Valid Logic, LSI Logic, Applicon, CAECO, and Seattle Silicon Corporation.

Cadence has entered into technology partnerships with National Semiconductor, Toshiba, Kawasaki Steel, ST Microelectronics, and Mitsubishi Electric Corp.

Geographic Markets

Approximately 52% of Cadence's 1987 revenue was derived from the U.S. and the remaining 48% from international sources.

A three-year summary of source of revenue, as reported by Cadence, follows:

CADENCE DESIGN SYSTEMS, INC.
THREE-YEAR GEOGRAPHIC SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	1987		1986		1985	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
U.S.	$27.0	67%	$14.5	67%	$9.8	74%
European operations	4.5	11%	3.7	17%	2.1	15%
Far East operations	1.3	3%	0.6	3%	0.1	1%
Japanese and European distributors	7.6	19%	2.8	13%	1.3	10%
TOTAL	**$40.4**	**100%**	**$21.6**	**100%**	**$13.3**	**100%**

U.S. sales and support offices are located in San Jose, Santa Clara, and Irvine (CA), Englewood (CO), Orlando (FL), and the metropolitan areas of New York, Boston, Minneapolis, and Washington, D.C.

In Europe and Asia (other than Japan), Cadence markets its products primarily through sales offices that license and support

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the company's products in the U.K., Europe, the Republic of China (Taiwan), Hong Kong, South Korea, and Singapore.

Cadence also serves its international customers through a manufacturer's representative in Europe (ES2), and a full-service distributor in Japan (Innotech).

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COMPANY PROFILE

CADLINC INC.
700 Nicholas Boulevard
Elk Grove Village, IL 60007
(312) 228-7300

John H. West, President
Private Corporation
Total Employees: 200
Total Revenue, Fiscal Year End
9/30/85: $25,000,000*

THE COMPANY

- CADLINC Inc., founded in 1981 by John West, provides computer-integrated manufacturing microcomputer turnkey systems to clients in the metalworking industry.
 - CADLINC merged its business with a portion of System Associates, Inc.'s Troy (MI) operations during 1981.
 - The merger included 10 System Associates' employees with professional services experience in developing systems for factory automation, communications networks, NC machine control and part programming, computer graphics, and post processors for major metalworking corporations.
- Since 1981 CADLINC has received over $18.5 million in venture capital funding from Kleiner Perkins Caufield & Byers, The Hillman Company, First Chicago Corporation, Concord Partners, Hambrecht & Quist, and Robertson, Colman.
- Revenue for fiscal 1985 was $25 million, a 72% increase over fiscal 1984 revenue of approximately $14.5 million. A five-year revenue summary follows:

CADLINC INC.
FIVE-YEAR REVENUE SUMMARY
($ thousands)

ITEM \ FISCAL YEAR	9/85	9/84	9/83	9/82	9/81
Revenue	$25,000	$14,500	$9,000	$4,000	$2,500
. Percent increase from previous year	72%	61%	125%	60%	N/A

- CADLINC management attributes growth to the company's approach to CAD/CAM from the manufacturing (shop floor), instead of design, perspective.

*Company estimate

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- Competitors include Computervision, Applicon, McDonnell Douglas Information Systems Group, Calma, and IBM (CADAM).

KEY PRODUCTS AND SERVICES

- One hundred percent of CADLINC's fiscal 1985 revenue was derived from turnkey systems.
 - The company introduced its first turnkey system in December 1982. Prior to that time the majority of its revenue was derived from marketing its software as separate packages and from providing processing services.
- CADLINC's turnkey systems allow data generated by CAD software to be used directly by CAM software to generate part programs for machine tools, integrating all levels of the manufacturing organization. The products are aimed exclusively at the mechanical CAD/CAM market.
 - The company's CIM (computer-integrated manufacturing) systems tie manufacturing and design operations together by allowing communication between design engineering, process planning, NC programming, and tool design functions, as well as the sharing of a common data base. The system also supports communications with external CAD/CAM systems from different vendors.
 - The system's modular format allows users to proceed with automation at their own pace as well as tailor a system to particular requirements.
- Turnkey system hardware, networking, and associated systems software components include the following:
 - The CADLINC CIM STATION, consisting of a 32-bit Motorola 68000 microprocessor and a graphics monitor, operates as a standalone station or can be configured in a network. The system runs under UNIX Berkeley 4.2, which CADLINC has enhanced to support multi-window capability, allowing the user to display up to eight different windows/applications simultaneously on the same screen, seven of which can be performing separate tasks.
 - The Machine Manager, introduced in 1985, provides all the capabilities of the CADLINC CIM STATION in a NEMA-12 (factory hardened) configuration.
 - CADLINC's CIM NET, based on Ethernet network protocol and hardware components, can link up to 1,027 CIM STATIONS over a distance of one mile. CIM NET allows users at independent CIM STATIONS to share data and transfer files. In addition, peripheral devices such as hard-copy printers and plotters, can be shared.

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- CIM MANAGER provides central mass storage facilities, file protection, administrative capabilities, and peripheral device support for extended CIM NET configurations. CIM MANAGER serves as a repository for files being transferred from external CAD/CAM systems when it is equipped with CADLINC's CIM GATE.

- CIM GATE provides a communications gateway between a CADLINC CIM STATION and external CAD/CAM systems when used in conjunction with CIM VENDOR. The system provides bisynchronous communication over telecommunications lines.

- CIM VENDOR converts two- and three-dimensional geometric data files received from an external CAD/CAM system to a format compatible with any CADLINC applications package. Results can be output either in a CADLINC-compatible format or in the original CAD/CAM system's format.

 . This capability is available for Applicon, Calma, Computervision, Ford Design, General Motors, Chrysler, Medusa, CADAM, and IGES formats.

- All CADLINC applications software is integrated, user-friendly, and includes the same user interface, permitting data generated in one application to be used in another.

 - The CIM SHELL user interface replaces direct keyboard input with four kinds of interactive input including both pop-up and static menus (icons that pictorially represent familiar user functions) controlled by a mouse pointing device, function key input, and macro processor input.

 . A single screen displays all menus, keyboard input, icons, and graphics and includes a scrolling-text area.

 . Users can also define additional menus and icons to accommodate their specific needs.

 . The CIM SHELL macro processor interprets all cursor movement, menu picks, and keystrokes, allowing the user to program his own interface. It may also be used to store a series of commands or perform logic operations, testing, or computations that may not be within the scope of a particular applications package.

 - CADLINC supports FORTRAN-77 and C compilers which allow users to create their own applications packages as well as the appropriate CIM SHELL interface.

- Design and manufacturing software available on the system includes the following:

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- CIM CAD provides part design, drafting, and detailing as well as three-dimensional wire frame capability. Data generated by CIM CAD can be used in manufacturing programs to design tools and fixtures and generate machine tool code. Data generated in any CADLINC applications package or external CAD/CAM system can serve as input to CIM CAD.

 . The system supports up to 1,024 layers to which the user can assign specific geometric components.

 . Applications include product design and part print production, tool design, process sheet production, bill of materials, and plant layout.

 . All CIM CAD data is stored in a data base of detailed part prints that can be used for part programming, assemblies and revisions, surface modeling, fixture design, and drawings.

- CADLINC manufacturing software generates ISO/APT CL data for any 2 1/2- to 5-axis machine tool/control. ISO/APT CL data is created in both CIM SURF and CIM CAM programs and post-processed through CIM POST programs, which are custom-tailored to meet user-specified output requirements.

 . CIM CAM, a graphics program used for simpler part production, generates ISO/APT cutter location data for computer-assisted machining. Features include Curve Fitting and Editing; machining modules including Milling/Machining Center, Lathe, EDM/Flame Cutting, and Punching; and Nesting.

 . CIM SURF, a complex part-production program, is used for advanced three-dimensional sculptured surface modeling and machining of doubly-curved surfaces. The system uses the algorithm of polynomial surface patches to generate sculptured surfaces and facilitates such functions as splining, holding tangents, and tolerances. CIM SURF provides for a number of alternative methods for generating tool paths and part sectioning and allows all or part of a surface to be machined.

 . CADLINC post processors accept input in the form of cutter location files generated by CIM CAM and CIM SURF. Post processors are provided for a wide variety of NC/CNC machine tools including mills, lathes, machining centers, wire EDMs, flame cutters, and punches.

 - Available with the standard features included in the base price are a variety of optional features, which are supported for an additional fee.

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- The post processors are tailored to specific requirements defined by the customer.

- CADLINC intends to offer a solids modeling product as a software option in 1986.

- Pricing for the turnkey system hardware averages $29,500 per seat in a networked configuration. CIM CAD is priced at $10,500, and the other software products are priced at $10,000 each. There are currently over 800 turnkey systems installed.

- Support services offered by CADLINC include the following:

 - Training classes are available for each application area.

 - An Application Engineering Support Contract may be purchased on a yearly basis and provides the user with telephone and on-site support for all applications and systems software, software updates, and continued training.

 - A Hardware Maintenance Agreement provides on-site service for hardware as well as preventive maintenance.

- CADLINC discontinued its Prime-based processing services during 1984.

INDUSTRY MARKETS

- One hundred percent of CADLINC's fiscal 1985 revenue was from clients in the discrete manufacturing industry, primarily aerospace, automotive, and machine tool companies.

 - Clients include General Motors, Ford Motor Company, Dresser Industries, Deere & Company, Rohr Industries, United Technologies Corporation, Cincinnati Milacron, Inc., Kearney & Trecker, Boeing Military Airplane Company, and Boeing Aerospace Company.

GEOGRAPHIC MARKETS

- Approximately 95% of CADLINC's fiscal 1985 revenue was derived from the U.S. Less than 5% of revenue was derived from Canada.

 - CADLINC is presently expanding its markets to Europe.

- CADLINC's headquarters and manufacturing facilities are in Elk Grove Village (IL).

 - Regional sales and support offices are located in Troy (MI), Burlington (MA), Philadelphia, Dallas, Irvine (CA), Seattle, and Elk Grove Village.

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COMPUTER HARDWARE AND SOFTWARE

- CADLINC has the following equipment installed:
 - 95 CIM STATIONS, running under Berkeley 4.2, are located at the Troy engineering plant and Elk Grove Village headquarters.

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COMPANY HIGHLIGHT

CADLINC INC.
700 Nicholas Boulevard
Elk Grove Village, IL 60007
(312) 228-7300

John H. West, President
Private Corporation
Total Employees: 85
Total Revenue, Fiscal Year End 9/30/83: $4,000,000

THE COMPANY

- CADLINC Inc., founded in 1981 by John West, primarily provides computer-integrated manufacturing microcomputer turnkey systems to clients in the metalworking industry.
 - CADLINC merged its business with a portion of System Associates, Inc.'s Troy (MI) operations during 1981.
 - The merger included 10 System Associates' employees with professional services experience in developing systems for factory automation, communications networks, NC machine control and part programming, computer graphics, and post processors for major metalworking corporations.
- Since 1981 CADLINC has received over $9 million in venture capital funding from Kleiner Perkins Caufield & Byers, The Hillman Company, First Chicago Corporation, Concord Partners, Hambrecht & Quist, and Robertson, Colman.
- Revenue for fiscal 1983 was $4 million, a 60% increase over fiscal 1982 revenue of approximately $2.5 million. Management attributes growth to the company's approach to CAD/CAM from the manufacturing (shop floor), instead of design, perspective.
- Competitors include Computervision, Applicon, MCAUTO, Calma, and IBM (CADAM).

KEY PRODUCTS AND SERVICES

- Virtually all of CADLINC's fiscal 1983 revenue was derived from turnkey systems and a very small percentage from processing services.
 - The company introduced its first turnkey system in December 1982. Prior to that time the majority of its revenue was derived from marketing its software as separate packages and from providing processing services.

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- CADLINC's turnkey systems allow data generated by CAD software to be used directly by CAM software to generate part programs for machine tools, integrating all levels of the manufacturing organization. The products are aimed exclusively at the mechanical CAD/CAM market.

 - The company's CIM (computer-integrated manufacturing) systems tie manufacturing and design operations together by allowing communication between design engineering, process planning, NC programming, and tool design functions, as well as the sharing of a common data base. The system also supports communications with external CAD/CAM systems from different vendors.

 - The system's modular format allows users to proceed with automation at their own pace as well as tailor a system to particular requirements.

- Turnkey system hardware, networking, and associated systems software components include the following:

 - The CADLINC CIM STATION, consisting of a 32-bit Motorola 68000 microprocessor and a graphics monitor, operates as a standalone station or can be configured in a network. The system runs under UNIX V7, which CADLINC has enhanced to support multi-window capability, allowing the user to display up to eight different windows/applications simultaneously on the same screen, seven of which can be performing separate tasks.

 - CADLINC's CIM NET, based on Ethernet network protocol and hardware components, can link up to 1,027 CIM STATIONS over a distance of one mile. CIM NET allows users at independent CIM STATIONS to share data and transfer files. In addition, peripheral devices such as hard-copy printers and plotters, can be shared.

 - CIM MANAGER provides central mass storage facilities, file protection, administrative capabilities, and peripheral device support for extended CIM NET configurations. CIM MANAGER serves as a repository for files being transferred from external CAD/CAM systems when it is equipped with CADLINC's CIM GATE.

 - CIM GATE provides a communications gateway between a CADLINC CIM STATION and external CAD/CAM systems when used in conjunction with CIM VENDOR. The system provides bisynchronous communication over telecommunications lines.

 - CIM VENDOR converts two- and three-dimensional geometric data files received from an external CAD/CAM system to a format compatible with any CADLINC applications package. Results can be output either in a CADLINC-compatible format or in the original CAD/CAM system's format.

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 - This capability is available for Applicon, Calma, Computervision, Ford Design, General Motors, Chrysler, Medusa, CADAM, and IGES formats.

 - The CIM VENDOR Library is a software option, available for purchase separately, which provides CADLINC users with the ability to interact with more than one external vendor. Data may be accepted and output in any of the supported vendors' formats as well as in a CADLINC-usable format.

- All CADLINC applications software is integrated, user-friendly, and includes the same user interface, permitting data generated in one application to be used in another.

 - The CIM SHELL user interface replaces direct keyboard input with four kinds of interactive input including both pop-up and static menus (icons that pictorially represent familiar user functions) controlled by a mouse pointing device, function key input, and macro processor input.

 - A single screen displays all menus, keyboard input, icons, and graphics and includes a scrolling-text area.

 - Users can also define additional menus and icons to accommodate their specific needs.

 - The CIM SHELL macro processor interprets all cursor movement, menu picks, and keystrokes, allowing the user to program his own interface. It may also be used to store a series of commands or perform logic operations, testing, or computations that may not be within the scope of a particular applications package.

 - CADLINC supports FORTRAN-77 and C compilers which allow users to create their own applications packages as well as the appropriate CIM SHELL interface.

- Design and manufacturing software available on the system includes the following:

 - CIM CAD provides part design, drafting, and detailing as well as three-dimensional wire frame capability. Data generated by CIM CAD can be used in manufacturing programs to design tools and fixtures and generate machine tool code. Data generated in any CADLINC applications package or external CAD/CAM system can serve as input to CIM CAD.

 - The system supports up to 148 layers to which the user can assign specific geometric components.

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- Applications include product design and part print production, tool design, process sheet production, bill of materials, and plant layout.

- All CIM CAD data is stored in a data base of detailed part prints that can be used for part programming, assemblies and revisions, surface modeling, fixture design, and drawings.

– CADLINC manufacturing software generates ISO/APT CL data for any 2 1/2- to 5-axis machine tool/control. ISO/APT CL data is created in both CIM SURF and CIM CAM programs and post-processed through CIM POST programs, which are custom-tailored to meet user-specified output requirements.

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 - CADLINC post processors accept input in the form of cutter location files generated by CIM CAM and CIM SURF. Post processors are provided for a wide variety of NC/CNC machine tools including mills, lathes, machining centers, wire EDMs, flame cutters, and punches.

 – Available with the standard features included in the base price are a variety of optional features, which are supported for an additional fee.

 – The post processors are tailored to specific requirements defined by the customer.

- CADLINC intends to offer a solids modeling product as a software option during the next year.

- Pricing for the turnkey system, which has approximately 250 installations, ranges from $60,000 to $120,000 and averages $38,000 per seat in a networked configuration.

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- Processing and support services offered by CADLINC include the following:
 - Training classes are available for each application area.
 - An Application Engineering Support Contract may be purchased on a yearly basis and provides the user with telephone and on-site support for all applications and systems software, software updates, and continued training.
 - A Hardware Maintenance Agreement provides on-site service for hardware as well as preventative maintenance.
 - CADLINC also provides Prime-based remote computing access to its applications software and post processors under its Time-Share Service Contract. Users of the service are generally not turnkey clients. There are approximately 10 processing clients currently.

INDUSTRY MARKETS

- One hundred percent of CADLINC's fiscal 1983 revenue was from clients in the discrete manufacturing industry, primarily aerospace, automotive, and machine tool companies.
 - Clients include General Motors, Ford Motor Company, Martin Marietta, Deere & Company, McDonnell Douglas, Boeing, Volkswagen, Rockwell, and General Dynamics.

GEOGRAPHIC MARKETS

- Approximately 95% of CADLINC's fiscal 1983 revenue was derived from the U.S. Less than 5% of revenue was derived from Canada.
 - CADLINC is presently expanding its markets to Europe and Japan.
- CADLINC's headquarters and manufacturing facilities are in Elk Grove Village.
 - Regional sales and support offices are located in Troy (MI), Irvine (CA), Burlington (MA), and Elk Grove Village.

COMPUTER HARDWARE AND SOFTWARE

- CADLINC has the following equipment installed:
 - Ten CIM STATIONS, running under UNIX V7, are located at the Elk Grove Village headquarters.
 - Remote computing services are provided on two Prime minicomputers from Troy (MI).

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 - Training classes are available for each application area.
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CADRE TECHNOLOGIES INC.

19545 N.W. Von Neumann Drive
Beaverton, OR 97006
Phone: (503) 690-1300
Fax: (503) 690-1320

222 Richmond Street
Providence, RI 02903
Phone: (401) 351-5950
Fax: (401) 455-6800

Chairman & CEO:	Lawrence T. Sutter
Status:	Private Corporation
Total Employees:	300+ (12/92)
Total Revenue:	$50,600,000
Fiscal Year End:	12/31/92

Key Points

- Cadre has announced that its ObjectTeam line of development tools for C++, Ada, and SQL will support two well-known object-oriented programming methodologies--the Rumbaugh and Shlaer-Mellor methodologies--for UNIX, VMS, and Windows 3.1 environments.
- Cadre currently derives over one-third of its revenue from international sources.
- According to INPUT, CASE tools are most likely to grow at 19% compounded annually through 1997 and the focus of development of mission-critical applications will have shifted from host-led (especially mainframe) environments to client/server environments. Cadre, with its UNIX-based offerings and move toward object-oriented development, is well-positioned for growth in this area.

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Company Description

Cadre Technologies, founded in 1982, develops, markets, and supports a family of workstation-based software development automation for development of high-performance software and systems.

Cadre currently has over 25,000 product installations worldwide.

Strategy

Cadre's marketing strategy focuses on organizations in embedded systems and technical CASE market areas such as aerospace, telecommunications, and engineering. The company is considered a leader in the technical CASE market.

Financials

Cadre's 1992 revenue was $50.6 million, compared to $50.4 million for 1991.

Alliances

Cadre has marketing or development partnerships with over 40 software and hardware companies, including Cadence Design Systems, DEC, HP, IBM, Sun Microsystems, JYACC, Softool, Inc., Template Software, Verdix, Frame, and Interleaf.

Key Products and Services

One hundred percent of Cadre's revenue is derived from software product licenses, associated support services, training, and consulting.

Cadre's Teamwork product family provides an environment for systems development that includes support for model creation and editing, a shared data base for use by large project teams, debuggers, emulators, software optimization and verification tools, and interfaces to other CASE products.

Cadre's Teamwork product family runs on DEC, HP, IBM, and Sun platforms. Operating systems supported include ULTRIX, UNIX, VMS, Domain OS, HP-UX, AIX, OS/2, Solaris, and SunOS. The product family includes the following components:

- Teamwork Analysis Solutions, released in 1992, is a set of software requirements analysis and development tools, that includes:
 - Dynamic Analysis, to predict system throughput and responsiveness, evaluate architectural and performance tradeoffs, and verify that functional specifications meet product requirements prior to detailed design and coding

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- Rapid Applications Prototyping, for prototyping a new application based on a structured analysis model

- Requirements Analysis, which provides the ability to gather, document, and analyze product requirements

· ObjectTeam, introduced in 1993, is a line of development tools for C++, Ada, and SQL that supports two well-known object-oriented programming methodologies--the Rumbaugh and Shlaer-Mellor--for UNIX, VMS, and Windows 3.1 environments.

· Teamwork/RqT® is a requirements traceability product that tracks project progress and completeness by showing relationships between project requirements and actual deliverables throughout the phases of the development life cycle.

· Teamwork/Ada® is an Ada systems design tool. It supports Object-Oriented Design (OOD) techniques and Ada Structured Graph (ASG) notation.

· Ensemble, introduced in 1992, is a modular tool set that automates software development, maintenance, and testing for C programs.

- Ensemble modules include System Understanding, Function Understanding, Construction, Test Case Generation, Test Verification, and Documentation.

- Ensemble runs on various UNIX workstations, include the IBM RS/6000, HP Apollo 9000 Series 700, and DEC's DECsystem and DECstation lines.

· Teamwork/DSE® is a syntax-directed text editor for Ada language development that provides a means to add Ada code to Ada Structure Graphs within the Teamwork development environment, ensuring consistency between design and Ada source code.

· Teamwork/Ada Source Builder is software that automates the production of Ada source code directly from Ada Structure Graphs.

· Teamwork/C Source Builder is software that automates the production of C source code directly from Teamwork/SD structure charts.

· Teamwork/C Rev® is a reverse engineering product for the C programming language. Teamwork/C Rev builds structure charts representing the organization and hierarchy of existing C source files.

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- Teamwork/FORTRAN Rev[R] is a reverse engineering product for FORTRAN programs that graphically reveals the structure of existing software.
- The Teamwork/IPSE_toolkit[R] provides tools to integrate Teamwork with other CASE tools, utilities, or custom software.

Support services provided by Cadre include on-site and vendor site training; hot-line, local and on-site technical support; and international, U.S. and local user groups.

Industry Markets

Cadre's primary markets are in industries such as defense, process control, aerospace, automotive, computers/peripherals, telecommunications, engineering, and financial services, where CASE products are needed to support development of real-time scientific and technical applications such as embedded systems.

Clients

Cadre has more than 25,000 installations worldwide and a customer base that includes AT&T, Boeing, General Electric, McDonnell Douglas, Nippon Telephone and Telegraph, Lloyds Bank, Philips, IBM, and Federal Express.

Geographic Markets

It is estimated that approximately 63% of Cadre's 1992 revenue was derived from the U.S./North America and 37% from international sources.

Cadre is headquartered in Beaverton (OR), although most corporate and financial functions still reside in Providence (RI). The company also has 21 major North American offices located in Wellesley (MA), Woodbury (CT), Long Island and Syracuse (NY), Mt. Laurel (NJ), Arlington (VA), Kernersville (NC), Irving (TX), Colorado and Steamboat Springs (CO), Foster City, Santa Clara, San Diego, Orange County, and Newport Beach (CA), Orlando (FL), Freehold (NJ), Seattle (WA), Chicago (IL), and Ontario.

Cadre's international operations, Cadre Technologies SA, is headquartered in Nyon, Switzerland. This unit markets Cadre's products through worldwide distributors.

Cadre's Latin American operations are headquartered in Irving (TX).

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CADRE TECHNOLOGIES INC.
19545 N.W. Von Neumann Drive
Beaverton, OR 97006
(503) 690-1300

222 Richmond Street
Providence, RI 02903
(401) 351-5950

Lawrence T. Sutter, Chairman and CEO
David Banks, President
Private Corporation
Total Employees: 300+ (12/90)
Total Revenue, Fiscal Year End
12/31/90: $50,000,000

The Company

Cadre Technologies Inc., founded in 1982 by Louis Mazzucchelli, Read Fleming, and Kenneth Dill, develops, markets, and supports a family of workstation-based computer-aided software engineering (CASE) tools for development of high-performance software and systems.

In February 1989, Cadre merged with MicroCASE, Inc. (formerly Northwest Instrument Systems, Inc.). The merger of the two private companies, accomplished through a pooling of stock, created a $35 million CASE company with over 6,500 customers worldwide.

- The merger added several new product lines, including debuggers, emulators, and software optimization and verification tools to Cadre's structured analysis and design tool offerings.

- Larry Sutter, formerly President and CEO of MicroCASE, is Cadre Technologies' new Chairman and CEO. Louis Mazzucchelli, a founder and previously Chairman of Cadre, now reports to Sutter as Chief Technical Officer. Cadre's corporate headquarters is in the process of being moved from Providence (RI) to Beaverton, (OR) -- previously MicroCASE headquarters.

Cadre's marketing strategy focuses on organizations in embedded systems and technical CASE market areas such as aerospace, telecommunications, and engineering. The company is considered a leader in the technical CASE market.

Cadre's 1990 revenue reached $50 million. INPUT estimated Cadre's 1987 revenue at $7 million, making the last three years' estimated revenue growth more than 700%. This rate of growth can be attributed primarily to the 1989 merger with MicroCASE as well as to increased sales volume, which Cadre management says surpassed 40% in 1990.

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Other key acquisitions by Cadre include the following:

- In May 1991, Cadre annnounced its acquisition of DB Software Corp., developer of DB RE/generator™. DB Software, founded in 1989, develops and markets tools for relational data base design, migration, maintenance and performance tuning. The company has become Cadre's San Francisco division. Founder Dina Bitton has joined Cadre as a vice president and R&D fellow.

- In January 1987, Cadre purchased Structsoft Inc.'s Personal Computer Structured Analysis (PCSA) microcomputer-based structured analysis tool. The technology was used to develop Cadre's Teamwork/PCSA structured analysis software tool for IBM and compatible microcomputers.

Cadre has entered into various alliances and marketing agreements, as follows:

- Cooperative Marketing Partner with Cadence Design Systems, DEC, HP/Apollo, IBM, Microtec Research, and Sun Microsystems

- Business Partner with IBM

- Joint Marketing Partner with Advanced Technologies Applications, ASK/Ingres, Atherton Technology, Computer Command & Control Company, ECS Associates, Frame, Interleaf, Mesa Systems Guild, Rational, and Saber

- Technology Partner with General Electric, Research Triangle Institute, and SAIC

- VAR relationship with Pansophic

Key Products and Services

One hundred percent of Cadre's revenue is derived from software product licenses, associated support services, training, and consulting.

Cadre's Teamwork product family provides an environment for systems development that includes support for model creation and editing, a shared data base for use by large project teams, debuggers, emulators, software optimization and verification tools, and interfaces to other CASE products.

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Each of the Teamwork tools collects project management information, provides an editing function that checks for model completeness and balancing, and supports full requirements traceability and automated documentation. There are currently over 15,000 Cadre Teamwork systems installed worldwide.

Cadre's Teamwork product family runs on Data General, DEC, HP/Apollo, IBM, and Sun platforms. Operating systems supported include ULTRIX, UNIX, VMS, Domain OS, HP-UX, AIX, OS/2, and Sun OS. The product family includes the following components:

- DB RE/generator™ is a new product resulting from the acquisition of DB Software Corp. in May 1991. The product is a a SQL generator that produces SQL code executable on IBM mainframes running DB2 and on any Oracle server.

- Teamwork/SA®, a systems analysis tool, lets designers create data flow diagrams, process specifications, and data dictionary entries.

- Teamwork/RT®, provides real-time extensions to Teamwork/SA for control flow analysis modeling. This includes real-time sequencing, timing, and control required for military, process control, and interactive systems.

- Teamwork/IM®, provides modeling support for systems analysts and data base designers modeling the entities, relationships, and attributes of all application data at the conceptual level.

- Teamwork for OOA® is an integrated environment for the Object-Oriented Analysis (OOA) from Project Technologies, Inc. The product uses the capabilities of Teamwork/RT, Teamwork/IM, and Teamwork/SA.

- Teamwork/RqT™ is a requirements traceability product that tracks project progress and completeness by showing relationships between project requirements and actual deliverables throughout the phases of the development life cycle.

- ADAS® is an Architecture Design and Assessment System that supports system-level simulation for combined software/hardware codesign.

- Teamwork/SIM™ supports dynamic modeling of structured analysis and real-time models, permitting users to simulate the behavior and measure the performance of otherwise static models before protoypes are built.

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- Teamwork/SD[R], an environment for systems design, uses structure charts to graphically capture module and subroutine details required for traditional coding.

- Teamwork/ADA[R] is an Ada systems design tool. It supports Object-Oriented Design (OOD) techniques and Ada Structured Graph (ASG) notation.

- Teamwork/DSE™ is a syntax-directed text editor for Ada language development that provides a means to add Ada code to Ada Structure Graph within the Teamwork development environment ensuring consistency between design and Ada source code.

- Teamwork/Ada Source Builder is software that automates the production of Ada source code directly from Ada structure graphs.

- Teamwork/C Source Builder is software that automates the production of C source code directly from Teamwork/SD structure charts.

- Teamwork/C Rev™ is a reverse engineering product for the C programming language. Teamwork/C Rev builds structure charts representing the organization and hierarchy of existing C source files.

- Teamwork/FORTRAN Rev™ is a reverse engineering product for FORTRAN programs that graphically reveals the structure of existing software.

- The Teamwork[R]/IPSE_toolkit™ provides tools to integrate Teamwork with other CASE tools, utilities, or custom software.

- Teamwork/PCSA[R] is a product family of structured analysis tools that run on IBM PCs and compatible computers. The PCSA products were purchased in 1987 from Structsoft. The products support Yourdon/DeMarco Structured Analysis techniques.

- Teamwork[R] for OS/2 is multi-user analysis and design software for software development under OS/2.

- Teamwork/TestCase™ is a front-end CASE tool that automates software test case generation.

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Support services provided by Cadre include on-site and vendor site training; hot-line, local and on-site technical support; and international, U.S. and local user groups.

Industry Markets

Cadre's primary markets are in industries such as defense, process control, aerospace, automotive, computers/peripherals, telecommunications, engineering, and financial services, where CASE products are needed to support development of real-time scientific and technical applications such as embedded systems.

Geographic Markets

It is estimated that approximately 80% of Cadre's 1990 revenue was derived from the U.S./North America and 20% from international sources.

Cadre is headquartered in Beaverton (OR), although many corporate functions still reside in Providence (RI), corporate headquarters until 1989. The company also has 21 major North American offices located in Wellesley (MA), Woodbury (CT), Long Island and Syracuse (NY), Mt. Laurel (NJ), Arlington (VA), Kernersville (NC), Irving (TX), Colorado and Steamboat Springs (CO), Foster City, Santa Clara, San Diego, Orange County, and Newport Beach (CA), Orlando (FL), Freehold (NJ), Seattle (WA), Chicago (IL), and Ontario.

Cadre's international subsidiary, Cadre Technologies SA, is headquartered in Switzerland. This unit markets Cadre's products through 13 distributors in 11 European countries. Cadre also has six distributors in the Asia/Pacific region: in Hong Kong, India, Japan, Korea, Singapore, and Taiwan.

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CADRE TECHNOLOGIES INC.
222 Richmond Street
Providence, RI 02903
(401) 351-5950

Louis J. Mazzucchelli, Chairman
David Banks, President and CEO
Private Corporation
Total Employees: 100 (11/88)
Total Revenue, Fiscal Year End
12/31/87: $7,000,000*

*INPUT estimate

The Company

Cadre Technologies Inc., founded in 1982 by Louis Mazzucchelli, Read Fleming, and Kenneth Dill, provides a family of computer-aided software engineering (CASE) tools for software and systems engineers. The company's Teamwork[R] product family integrates interactive graphics, system development methodologies, computer-aided design, and high-performance networked workstations to provide increased productivity and quality in development environments.

Cadre's marketing strategy focuses on organizations currently using manual structured techniques in embedded systems market areas such as aerospace, telecommunications, and engineering, and business systems application development. Cadre's products are available through a variety of distribution channels, including telemarketing, direct sales, OEMs, and VARs.

INPUT estimates Cadre's 1987 revenue reached $7 million. Cadre management projects that 1988 revenue will more than double over 1987 levels.

In January 1987 Cadre purchased Structsoft Inc.'s Personal Computer Structured Analysis (PCSA) microcomputer-based structured analysis tool. The technology was used to develop Cadre's Teamwork/PCSA structured analysis software tool for IBM and compatible microcomputers.

Cadre has entered into various alliances/marketing agreements, as follows:

- In August 1988, Cadre announced a value-added reseller agreement with Relational Technology Inc. Cadre's Teamwork family of CASE tools will be tightly integrated with Relational Technology's INGRES family of data base products.

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- The contract, worth more than $11 million to Cadre over five years, is targeted to application developers in government, manufacturing, engineering, and DP/MIS, and allows Relational Technology to sell the new integrated INGRES-Teamwork product directly to new customers and its current installed base worldwide.

- The products will be integrated in several phases. The first phase, to be available in the first quarter of 1989, will integrate Teamworks' information modeling tools with the INGRES data dictionary.

- In May 1988, Cadre announced that it had signed MicroCASE, Inc. as a value-added reller of its Teamwork family of products. As part of the agreement, Cadre's Teamwork product will be integrated with MicroCASE's Software Analysis Workstation to address the full life cycle of embedded microprocessor development. Cadre expects to generate more than $3 million in revenue over the next three years through this channel.

- In 1987, Cadre and Pansophic Systems entered into a joint marketing and development agreement to integrate Teamwork's front-end tools with Pansophic's TELON application generator. The product is scheduled for availability in the first quarter of 1989.

- In the fall of 1987, Cadre signed a joint development and marketing agreement with General Electric Corporate Research and Development (GE) to work on an advanced set of Ada development tools based on GE's Interactive Systems Designers Workstation research.

- Since 1986, Hewlett Packard has been an OEM for Teamwork.

Key Products and Services

One hundred percent of Cadre's revenue is derived from software product licenses, associated support services, training, and consulting.

Cadre's Teamwork product family offers a complete environment for systems development that provides model creation and editing, support for large project teams through a shared data base, interfaces to other CASE tools, and easily produced, high-quality documentation. There are currently over 3,500 Cadre Teamwork systems installed worldwide.

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Cadre's multi-user, workstation-based Teamwork family of tools run on all standard workstation platforms from Apollo, DEC, HP, IBM, and Sun. The product family includes the following components:

- Teamwork Analysis Tools support both functional and object-oriented requirements analysis and include the following:
 - Teamwork/SA[R], an environment for system analysis, uses data flow diagrams to create and verify functional system specifications.
 - Teamwork/RT[R], an environment for real-time modeling, is an extension to Teamwork/SA. Teamwork/RT allows analysts to model the complexities of real-time systems, including real-time sequencing, timing, and control.
 - Teamwork/ES[TM] is a prototype that builds on Teamwork/RT's multi-user environment for creating system models, adding a simulation compiler, an interactive execution environment of the compiled models, reachability analysis, and transcription function for test plan generation and regression testing.
 - Teamwork/IM[TM], an environment for information modeling, uses entity relationship diagrams to model entities, relationships, and attributes of complex information, and information flows.
- Teamwork Design Tools, for the design of large software systems, follow structured analysis and include the following:
 - Teamwork/SD[TM], an environment for systems design, uses structure charts to graphically capture module and sub-routine details required for traditional coding.
 - Teamwork/ADA[TM] is an Ada system design capture, navigation, and documentation tool. It supports Object-Oriented Design (OOD) techniques and Ada Structured Graph (ASG) notation.
- The Teamwork/IPSE_toolkit[TM] provides tools, supported by Teamwork's open architecture, that allow users to completely customize and extend the Teamwork development environment. Components include the following:

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- Teamwork/DPI™ automated documentation of Teamwork Analysis and Design model objects using Interleaf, Scribe, and VAX Document workstation publishing systems.

- Teamwork/User Menus™ build custom menus on any Teamwork window to execute host text editors, compilers, utilities, and other software tools.

- Teamwork/InterCASE File Import provides standard ASCII file input of both text and graphics from any CASE development system supporting the proposed standard.

- Teamwork/ACCESS™ opens the Teamwork project data base to allow integration of the Teamwork front-end analysis and design tools with third-party back-end documentation, project management, and software development systems.

- In May 1988, Cadre announced a new licensing structure for its workstation-based Teamwork products that allows customers to purchase Teamwork based on the number of simultaneous users they wish to support on the network, rather than the number of workstations they own. Pricing ranges from $7,500 to $15,900 for single-quantity purchases.

In July 1988 Cadre announced the availability of Teamwork for OS/2 environments.

- The integrated single-user Teamwork for OS/2, a bundled product containing Teamwork/SA, Teamwork/IM, and Teamwork/SD, is available for $4,995.

- Cadre also announced a limited offer to users of DOS-based CASE tools to receive a second copy of Teamwork for OS/2 for free by sending to Cadre the security key of their existing tools. The offer is designed to allow users who are migrating to the OS/2 environment a way to salvage their investment in their existing DOS-based tools.

- A multi-user, OS/2 version of Teamwork is scheduled for availability in early 1989.

Teamwork/PSCA™, purchased in January 1987 from Structsoft, is a single-user structured analysis software tool for IBM PC, XT, AT, and compatible microcomputers running PC-DOS or MS-DOS 2.0 or higher, or IBM PS/2 runnning DOS.

- Teamwork/PSCA supports Yourdon/DeMarco Structured Analysis techniques. Data flow diagrams built with

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Teamwork/PSCA's Intelligent Graphics Editor help analysts model the system requirements, then maintain and update those models during program design, coding, and onward.

- Teamwork/PSCA models may be transferred to other Teamwork systems for additional analysis, real-time information modeling, distributed analysis and design, automatic document production, and code generation.
- Teamwork/PSCA is priced at $995. There are over 1,500 copies of Teamwork/PSCA installed.
- In September 1988 Cadre and Prentice-Hall announced an agreement to jointly develop a computer-aided workbook for students of CASE technology using Teamwork/PSCA.

Support services provided by Cadre include installation, on-site and centralized training, consulting, documentation, and hotline support.

Industry Markets

Target markets for Cadre's software products include aerospace, telecommunications, and engineering firms involved in embedded systems development, as well as corporations involved in business systems application development.

Geographic Markets

It is estimated that approximately 80% of Cadre's 1987 revenue was derived from the U.S. and 20% from international sources.

Cadre is headquartered in Providence (RI). The company also has nine sales offices located in Providence, Dallas (TX), Foster City and Newport Beach (CA), Orlando (FL), Arlington (VA), Freehold (NJ), Seattle (WA), and Chicago (IL).

Cadre's international subsidiary, Cadre Technologies SA, is headquartered in Switzerland. This unit markets Cadre's products through 13 distributors in 11 European countries.

Cadre also has distributors in Japan and Australia.

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INPUT

CAERE CORPORATION

100 Cooper Court
Los Gatos, CA 95030
Phone: (408) 395-7000
Fax: (408) 354-2743

Chairman, President & CEO:	Robert G. Teresi
Status:	Public Corporation
Stock Exchange:	NASDAQ
Total Employees:	181 (12/92)
Total Revenue:	$43,055,000
Fiscal Year End:	12/31/92

Key Points

- Caere Corporation's products provide an economical, accurate means of converting text, images, numeric, and bar code data into computer usable form.
- During 1992, Caere introduced products in three new market areas--fax, image editing, and file and retrieval. These products reach beyond the company's traditional scanner-based optical character recognition markets by providing PC users with tools to manage the documents, images, and faxes at their desktops.
- International revenue reached $13.8 million in 1992. To better serve its growing base of international customers, during 1992, Caere opened a new European office in Munich and established its first distributor relationship in Asia.

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Company Description

Caere Corporation designs, develops, manufactures, and markets information recognition software and systems that enable PC users to manage documents, images, and faxes that come across their desktops. Caere's products fall into two general categories:

- Desktop document management products include Caere's flagship OmniPage™ family of page recognition software for converting printed documents into electronic text. During 1992, Caere expanded its offerings in the desktop area with FaxMaster™, for sending, receiving, recognizing, and compressing fax images; Image Assistant™, an image editing product for both graphics professionals and business users; and PageKeeper™, for file and retrieval.

- Data capture products include bar code scanners and optical character recognition (OCR) readers for applications such as high-volume data entry and check verification. Customers of these products include retail establishments, government agencies, banks, utility companies, and other organizations.

Strategy

Caere's strategy is to continue to identify and pursue markets in which manual information entry can be automated cost effectively.

Caere expanded this strategy during 1992 with the introduction of the three products in the fax, image editing, and file and retrieval markets.

Financials

Caere's 1992 revenue reached nearly $43.1 million, a 33% increase over 1991 revenue of $32.4 million. Net income rose 30%, from $5.7 million in 1991 to $7.4 million in 1992. A five-year financial summary follows:

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CAERE CORPORATION
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

	FISCAL YEAR				
ITEM	1992	1991	1990	1989	1988
Revenue	$43,055	$32,417	$27,632	$19,591	$11,937
· Percent increase from previous year	33%	17%	41%	64%	32%
Income before taxes	$11,586	$8,924	$8,361	$4,119	$1,404
· Percent increase from previous year	30%	7%	103%	193%	14%
Net income	$7,395	$5,690	$5,211	$3,237	$1,239
· Percent increase from previous year	30%	9%	61%	161%	14%
Earnings per share (a)	$0.68	$0.54	$0.50	$0.41	$0.18
· Percent increase from previous year	26%	8%	22%	128%	13%

A three-year financial summary by product line follows:

CAERE CORPORATION
THREE-YEAR FINANCIAL SUMMARY
($ millions)

	FISCAL YEAR					
	1992		1991		1990	
PRODUCT LINE	$	PERCENT OF TOTAL	$	PERCENT OF TOTAL	R $	PERCENT OF TOTAL
Revenue						
- Desktop products	$34.8	81%	$23.5	73%	$17.9	65%
- OCR/Bar code	8.3	19%	8.9	27%	9.7	35%
TOTAL*	**$43.1**	**100%**	**$32.4**	**100%**	**$27.6**	**100%**
Gross margins						
- Desktop products	$25.7	86%	$16.7	77%	$13.0	72%
- OCR/Bar code	4.2	14%	4.9	23%	5.1	28%
TOTAL	**$29.9**	**100%**	**$21.6**	**100%**	**$18.1**	**100%**

* *Differences due to rounding.*

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Increases in revenues during 1992 were primarily due to increased unit sales of the OmniPage family of products, including OmniPage Professional, OmniPage, and OmniPage Direct, which first shipped in March 1992.

- Net revenue from the overall desktop product line increased 48% during 1992.

- Net revenue from Caere's new desktop products--FaxMaster, Image Assistant, and PageKeeper--which first shipped in August, September, and December, respectively, accounted for approximately 6% ($638,000) of the revenue growth during the year.

- Caere's OCR and bar code product sales declined 8% during 1992 primarily due to lower international sales. There has been a downward trend in the OCR/bar code products from a high of $10.0 million in 1989. This trend is expected to continue.

- International sales grew 9% during 1992. The growth slowed significantly during 1992 as a result of the sluggish economy in Europe, particularly Germany and France.

The increase in gross margins over the last three years has been the result of a shift in product mix to primarily software desktop products.

- Fluctuations in gross margins of the desktop products over the three-year period were due to variable sales of Typist, Caere's personal handheld scanner. As a combined hardware/software product, Typist carries a lower gross margin than Caere's software only products.

- The decrease in gross margins in the OCR/bar code products between 1991 and 1992 was due to lower sales volume and the write down of potential excess or obsolete inventories.

Research and development expenses were $4.4 million (10% of revenue) in 1992, $3.4 million (10% of revenue) in 1991, and $2.6 million (10% of revenue) in 1990.

Revenue for the three months ending March 31, 1993 decreased to $8.1 million compared to $9.3 million for the first quarter of 1992, due to lower unit sales of desktop products, including OmniPage products. Net income decreased to $215,000, compared to $1.5 million for the same period a year ago, due to decreased revenue, an increase in operating expenses, and a decrease in interest income.

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Alliances

During 1992, Caere began licensing its OCR technology to other companies for integration into their various products.

- BIT Technology and Delrina Technology both include forms of Caere's OCR recognition engine in their fax software products, BitFax and WinFax Pro, respectively.
- IBM has incorporated Caere's OCR recognition engine in its ImagePlus Intelligent Forms Facility/2 Version 1 system.
- Logitech and Caere are partnering to produce an optical character recognition software package specifically tailored for Logitech's ScanMan family of Windows-based hand-held scanners.

Caere also has strategic marketing agreements with various scanner manufacturers, including Hewlett-Packard, Microtek, and Apple. Trial versions of OmniPage Professional are shipping with the HP ScanJet IIc, Microtek ScanMaker, and the Apple OneScanner for Windows and for the Macintosh.

Employees

As of December 31, 1992, Caere had 181 employees, compared to 155 employees at the end of 1991.

Key Products and Services

Approximately 81% of Caere's 1992 revenue was derived from desktop document management products and 19% from OCR and bar code products.

Desktop Products:

OmniPage page recognition software is Caere's flagship product line. The software, which is available for IBM-compatible and Macintosh computers, transfers scanned text into popular word processing, spreadsheet, data base, and desktop publishing programs.

- OmniPage Professional for the PC is a 32-bit customizable page recognition product for power users that runs under Windows 3.0. The product is designed for the text-handling professional who needs more than basic OCR capabilities. It retails for $995.
- OmniPage Professional for the Macintosh includes many of the features found in OmniPage Professional for the PC, plus advanced System 7 capabilities. The product retails for $995.
- OmniPage is Caere's midrange offering. Versions for the Macintosh and Windows each retail for $695.

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- OmniPage Direct™ is a lower-cost version of OmniPage that was announced and began shipping for the PC in March 1992 and for the Macintosh in June 1992. Each product retails for $595.

Typist Plus Graphics™ is a handheld scanner that allows users to take information from most hard-copy sources and place it directly into word processors, spreadsheets, data bases, or other software programs. It is available for use with IBM and compatibles (retailing for $595) and Macintosh PCs (retailing for $695).

FaxMaster™ is an integrated fax software package that allows users to transmit, edit, store, and print faxes electronically. The product retails for $109.

Image Assistant is a full-featured color image editor for both PC and Macintosh platforms designed both for business users and graphics professionals. The product retails for $495.

PageKeeper, Caere's entry into the text selection and retrieval market, takes information from a hard disk, network, or scanner and creates a supercompressed data base of both text and images. The product retails for $895.

OCR and Bar Code Products:

Caere has produced hand-held and slot-reader OCR systems since 1977.

- The 800 Series Combo Reader, which works with a range of computers, integrates both OCR and bar code reading into a single unit. This functionality supports a range of applications in remittance processing, banking, and point-of-sale environments. It is also used by government organizations and the electric utility industry.

- Approximately 25% of Caere's OCR data capture business is the result of OEM sales.

Caere's bar code product line, introduced in 1983, includes both standalone decoders that can be attached externally to PCs and internal board-level decoders used in PCs as keyboard or bus interfaces.

Support Services:

Desktop products customers who register with Caere receive unlimited toll-free hotline technical support and product information at no cost.

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OCR and bar code customers also receive free telephone support, including assistance with installation, programming, and troubleshooting. These customers may also purchase annual service contracts for maintenance.

Industry Markets

Caere's desktop products are marketed to business executives, lawyers, writers, students, and teachers. OCR and bar code customers include retailers, government agencies, banks, utility companies, and other organizations.

Domestically, Caere markets its desktop products through distributors, including Ingram Micro, Merisel, and Kenfil, and to retail dealers and chains.

- Sales of desktop products to Ingram Micro represented approximately 24, 16%, and 20% of Caere's net revenues in 1992, 1991, and 1990, respectively.
- Sales of desktop products to Merisel represented approximately 13%, 14%, and 11% of Caere's net revenues during 1992, 1991, and 1990, respectively.

Caere markets its OCR and bar code products primarily through independent distributors, VARs, and OEMs.

Geographic Markets

Approximately 68% of Caere's 1992 revenue was derived from the U.S. and 32% from international markets. A three-year geographic source of revenue summary follows:

CAERE CORPORATION
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	1992		1991		1990	
GEOGRAPHIC MARKET	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
U.S.	$29.3	68%	$19.8	61%	$18.3	66%
International	13.8	32%	12.6	39%	9.3	34%
TOTAL	**$43.1**	**100%**	**$32.4**	**100%**	**$27.6**	**100%**

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In addition to its headquarters in Los Gatos (CA), Caere has offices throughout the U.S.

Internationally, Caere has an office in Munich (Germany). Products are sold through distributors servicing Western Europe, Canada, Australia, New Zealand, Mexico, South Korea, and Japan.

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CAERE CORPORATION
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Los Gatos, CA 95030
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Robert G. Teresi, Chairman, President, and CEO
Public Corporation, NASDAQ
Total Employees: 155 (12/91)
Total Revenue, Fiscal Year End 12/31/91: $32,417,000

The Company

Caere Corporation designs, develops, manufactures, and markets information recognition software and systems, including products with graphics recognition and editing capabilities. Caere's products fall into two general categories:

- Desktop recognition products, which include the OmniPage™ family of page recognition software, handheld scanners, and turnkey systems designed to transfer printed text--scientific reports, journal articles, legal briefs, and other documents--into a form usable by PC software programs. Customers of these products include business executives, lawyers, writers, students, and teachers.

- Data capture products, which include bar code scanners and optical character recognition (OCR) readers for applications such as high-volume data entry and check verification. Customers of these products include retail establishments, government agencies, banks, utility companies, and other organizations.

Caere's strategy is to continue to identify and pursue markets in which manual information entry can be automated cost effectively, while expanding opportunities in existing markets.

Financials

Caere's 1991 revenue reached $32.4 million, a 17% increase over 1990 revenue of $27.6 million. Net income rose 9%, from $5.2 million in 1990 to nearly $5.7 million in 1991. A five-year financial summary follows:

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CAERE CORPORATION
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, except per share data)

	FISCAL YEAR				
ITEM	1991	1990	1989	1988	1987
Revenue	$32,417	$27,632	$19,591	$11,937	$9,077
· Percent increase from previous year	17%	41%	64%	32%	N/A
Income before taxes	$8,924	$8,361	$4,119	$1,404	$1,230
· Percent increase from previous year	7%	103%	193%	14%	N/A
Net income	$5,690	$5,211	$3,237	$1,239	$1,088
· Percent increase from previous year	9%	61%	161%	14%	N/A
Earnings per share	$1.08	$1.00	$0.83	$0.37	$0.33
· Percent increase from previous year	8%	20%	124%	12%	N/A

Increases in revenues over the past three years are attributed to the OmniPage family of products, including increased unit sales of IBM and compatible PC versions of OmniPage™ 3.0 and OmniPage Professional™, as well as increased unit sales of Typist™, the company's personal handheld scanner.

- Caere's OCR and bar code product sales continued to decline due to decreased bar code unit sales and decreased revenues from spare parts sales and service contracts. Bar code sales declines were partially attributed to increased competition along with the slowness of the general economy. Declines in spare parts sales and service contracts relate to the maturity of the company's original handheld wands that were used in the point-of-sale business by one major customer. As these units are being phased out, the related service contracts are not being renewed. This portion of the company's business is not expected to grow in the future.

- International sales were the fastest growing segment of Caere's business during 1991, increasing 35% to $12.6 million. The OmniPage family of products, which recognize characters in eleven foreign languages, accounted for the majority of the increase, while the OCR and bar code products accounted for approximately 23% of the increase.

- Gross margins have increased over the past three years as a result of the product mix shifting to the higher margin software-

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only products, the Macintosh and 386 versions of OmniPage and OmniPage Professional.

Research and development expenses were $3.4 million (10% of revenue) in 1991, $2.6 million (10% of revenue) in 1990, and $1.9 million (10% of revenue) in 1989.

- Increased spending in 1991 was related to additional staffing of employees and outside consultants for further development of the OmniPage family of products. This results in the introduction of OmniPage Professional for the Macintosh in December 1991, as well as adding graphics editing capabilities to Typist and OmniPage Professional.

Revenue for the six months ending June 30, 1992 reached $19.4 million, a 17% increase over $16.6 million for the same period in 1992. Net income was $3.2 million, compared to $3.4 million for the same period a year ago.

Employees

As of December 31, 1991, Caere had 155 employees, segmented as follows:

Sales, marketing, and support	60
Product development	35
Manufacturing and customer repair	36
Finance and administration	24
	155

Key Products and Services

Approximately 73% of Caere's 1991 revenue was derived from page recognition software and systems and 27% from OCR and bar code products. A three-year source of revenue summary by product line follows:

CAERE CORPORATION
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	1991		1990		1989	
PRODUCT LINE	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
OmniPage products	$23.5	73%	$17.9	65%	$9.6	49%
OCR/Bar code	8.9	27%	9.7	35%	10.0	51%

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Page Recognition Products:

OmniPage page recognition software is Caere's flagship product line. The software, which is available for IBM-compatible and Macintosh computers, transfers scanned text into popular word processing, spreadsheet, data base, and desktop publishing programs.

Since its introduction in 1988, Caere has introduced three additional versions of OmniPage for Macintosh and IBM and compatible PCs:

- OmniPage 3.0 for the IBM PC supports the Windows 3.0 environment. OmniPage 3.0 for the Macintosh is compatible with the new Macintosh System 7 software. Each version retails for $695.

- OmniPage Professional for the IBM PC is a 32-bit customizable page recognition product that runs under Windows 3.0. A new version of the product, OmniProfessional 2.0, shipped in September 1991 and incorporates AccuPage technology from Hewlett-Packard. The product, which features a number of improvements in OCR accuracy, customization, and ease of use, retails for $995.

- The OmniPage Professional for the Macintosh, released in December 1991, includes many of the features found in OmniPage Professional 2.0 for the IBM PC, plus advanced System 7 capabilities. The product retails for $995.

- OmniPage Direct™ is a lower-cost version of OmniPage that was announced and began shipping for the PC in March 1992 and for the Macintosh in June 1992.

FaxMaster™, which will be available in the third quarter of 1992, is an integrated fax software package that includes send, receive, OCR, and compress capabilities. Caere also has an agreement with fax software company BIT Software, Inc. to bring integrated OCR and fax capabilities to OEM customers and an installed base of Bitcom users.

The Typist is a 5-inch-wide handheld scanner that allows users to take information from most hard-copy sources and place it directly into word processors, spreadsheets, data bases or other software programs.

- During 1991, Caere introduced a powerful upgrade to the Typist, called Typist Plus Graphics™. The program is a multifunctional

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personal scanner that has the ability to edit both text and gray-scale images. It is available for use with IBM and compatibles (retailing for $595) and Macintosh PCs (retailing for $695).

- Through Caere's strategic alliance with IBM's Academic Computer Information Systems division, IBM is bundling Typist Plus Graphics with two IBM systems--one for multimedia applications and the other for enhanced desktop productivity--that it markets to the academic community.

The Parallel Reader™ is a turnkey system designed to compete with high-end, high-volume dedicated OCR systems. The system combines OmniPage software with a Caere-configured 90386SX-based box that is compatible with most local-area networks. It has a suggested retail prices of $10,995.

OCR and Bar Code Products:

Caere has produced handled and slot-reader OCR systems since 1977.

- The 800 Series Combo Reader, which works with a range of computers, integrates both OCR and bar code reading into a single unit. This functionality supports a range of applications in remittance processing, banking, and point-of-sale environments. It is also used by government organizations and the electric utility industry.

- Approximately 25% of Caere's OCR data capture business is the result of OEM sales.

Caere's bar code product line, introduced in 1983, includes both standalone decoders that can be attached externally to PCs and internal board-level decoders used in PCs as keyboard or bus interfaces.

Support Services:

OmniPage customers who register with Caere receive unlimited toll-free hotline technical support and product information at no cost.

OCR and bar code customers also receive free telephone support, including assistance with installation, programming, and troubleshooting. These customers may also purchase annual service contracts for maintenance.

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Industry Markets

Caere's OmniPage products are marketed to business executives, lawyers, writers, students, and teachers. OCR and bar code customers include retailers, government agencies, banks, utility companies, and other organizations.

Domestically, Caere markets its OmniPage products through distributors, including Ingram Micro D, Merisel, and Kenfil, and to retail dealers and chains.

- Sales of OmniPage products to Ingram Micro D represented approximately 16% and 20% of Caere's total revenues in 1991 and 1990, respectively.
- Sales of OmniPage products to Merisel represented approximately 14% and 11% of Caere's total revenues during 1991 and 1990, respectively.

Caere markets its OCR and bar code products primarily through independent distributors, VARs, and OEMs.

Caere has strategic marketing agreements with various scanner manufacturers, including Hewlett-Packard, Microtek, and Apple. Trial versions of OmniPage Professional are shipping with the HP ScanJet IIc, Microtek ScanMaker, and the Apple OneScanner for Windows and for the Macintosh.

Geographic Markets

Approximately 61% of Caere's 1991 revenue was derived from the U.S. and 39% from international markets. A three-year geographic source of revenue summary follows:

CAERE CORPORATION
THREE-YEAR SOURCE OF REVENUE SUMMARY
($ millions)

	FISCAL YEAR					
	1991		1990		1989	
ITEM	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL	REVENUE $	PERCENT OF TOTAL
U.S.	$19.8	61%	$18.3	66%	$14.2	72%
International	12.6	39%	9.3	34%	5.4	28%
TOTAL	**$32.4**	**100%**	**$27.6**	**100%**	**$19.6**	**100%**

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In addition to its headquarters in Los Gatos (CA), Caere has offices throughout the U.S.

Internationally, Caere's products are sold through distributors servicing Western Europe, Canada, Australia, New Zealand, Africa, Mexico, South America, South Korea, Singapore, Japan, and India.

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CALIDUS SYSTEMS, INC.
1601 Trapelo Road
Waltham, MA 02154-7342
Phone: (617) 684-1200
Fax: (617) 684-1224

John P. Jewett, President and CEO
Private Company
Total Employees: 25 (Full-time)
Total Revenue, Fiscal Year End
12/31/91: $2,000,000*

*INPUT estimate

The Company

Calidus Systems, Inc. (CSI) markets and supports the MIRACLE™ family of DEC-based software products for financial, distribution, and direct marketing applications in the U.S. and Canada. CSI also provides a range of professional services in support of business systems integration to Fortune 1000 companies.

- Through April 1991, CSI operated along with Calidus Systems, Limited (London) as part of Pi Holdings, a $40 million U.K.-based software company. In addition to its professional services, CSI marketed and supported the software product line of Distribution Managment Systems, Inc. (DMS) until DMS was acquired by Computer Associates International.

- The MIRACLE product was developed during 1988 by Calidus Systems, Limited in a consortium with Peat Marwick, DEC, and others. Calidus used Cognos' POWERHOUSE fourth-generation language along with CASE tools to develop a functionally rich suite of products. CSI has exclusive rights to market MIRACLE in the U.S. and Canada.

- CSI now operates as a private company, with Pi Holdings owning a minority share of CSI.

CSI had 1991 revenue of about $2 million. It is anticipated that 1992 revenue will increase 100% to $4 million.

CSI's competitors include GSI Transcomm, Imerex, and Andersen Consulting.

Key Products and Services

Approximately 50% of CSI's 1991 revenue was derived from systems integration professional services. The remaining 50% of revenue was derived from MIRACLE software and associated support services.

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- CSI management anticipates that for 1992, MIRACLE sales and support services will contribute about 70% to revenue.

MIRACLE software is available for DEC VAX VMS computers.

- MIRACLE Distribution Software is a fully integrated order and inventory solution that supports all phases of distribution, including sales order processing, purchase order processing, inventory management, warehousing, radio frequency, and EDI. Pricing ranges from $10,000 to $250,000, depending on the platform.

- MIRACLE Financial Software provides a range of accounting capabilities for multi-company, multi-curreny, multi-ledger operations. Incorporating DEC products such as DECforms, SQL, and ALL-IN-1, the software supports general ledger, accounts receivable, fixed assets, budget, and accounts payable functions. Pricing ranges from $7,500 to $140,000, depending on the platform.

- MIRACLE Direct Marketing Software helps sales and marketing organizations process orders, serve customers, and analyze sales information. Functions include mail list management, marketing analysis, order entry, and fulfillment processing. Pricing ranges from $10,000 to $50,000, depending on the platform.

- CSI also provides customization, training, implementation, and operational support services to its MIRACLE clients.

- There are currently over 50 installations of MIRACLE products worldwide (including Rolls Royce, British Wire & Cable, and British Petroleum). To date, CSI has made four MIRACLE sales in North America.

CSI's business systems integration services help customers identify, develop, and integrate software solutions to support customer operations.

- Professional services include general consulting, project management, education services, implementation services, operational support, and custom software design and development services.

- Education services include standard training, education needs analysis, "train-the-trainer" sessions, and customized curriculum and material development. Services are provided at CSI's headquarters or customers' facilities.

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- Implementation services include environmental analysis, evaluation of interfaces, implementation planning, and implementation support.
- Operational support services include telephone and on-site support, operational site audits, consulting on new products/modules, small-scale applications modification, diagnostic investigation and analysis, and associated management reports.
- CSI's expertise includes developing, managing, and implementing major distribution/logistics systems.

Industry Markets

The target market for CSI's products and services is Fortune 1000 companies in the manufacturing, food, retail, and logistics industries.

Geographic Markets

One hundred percent of CSI's revenue is derived from North America.

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CALMA COMPANY
501 Sycamore Drive
Milpitas, CA 95035
(408) 434-4000

Daniel W. McGlaughlin, President
Wholly Owned Subsidiary of General Electric Company, U.S.A.
Total Employees: 1,350
Total Revenue, Fiscal Year End 12/31/86: $200,000,000

THE COMPANY

- Calma Company, founded as a private company in 1964 to develop and market digitizing equipment, naw provides computer-aided engineering, designing, and manufacturing (CAE/CAD/CAM) turnkey systems and saftware praducts far electranics, mechanical, and architectural, engineering, and constructian applications.
 - In 1978 Calma was acquired by United Telecammunications, Inc. and became a divisian af its United Camputing Systems, Inc. subsidiary.
 - On April 1, 1981, Calma was acquired from United Telecommunicatians by the General Electric Company, U.S.A. (GE).
- Calma's revenues were approximately $200 million in 1985 and 1986.
- As af December 1986 Calma had 1,350 employees. The campany currently has appraximately 1,300 employees, 1,000 af which are based in the U.S. and 300 in fareign locatians.
- Majar competitars include Camputervisian, Intergraph, and Applicon.

KEY PRODUCTS AND SERVICES

- INPUT estimates that 85% of Calma's 1986 revenue was derived fram turnkey systems and the remaining 15% was fram saftware praducts.
- Since July 1986, each of Calma's saftware packages (except GDSII) can be integrated with hardware as a turnkey system ar can be purchased as a stand-alane saftware package.
- The company's praducts run an DEC VAX and MicraVAX II camputers; Apalla DN3000, DN570A, and DN4000 warkstations; and Data General Eclipse mini-computers.

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- Calma's CAE/CAD/CAM systems have been designed for three distinct application areas: electronics; mechanical products; and architectural, engineering, and construction (AE&C). Calma currently has over 7,000 seats installed for approximately 800 customers worldwide.

- Electronics software available on Calma's systems includes the following:

 - GDS II (Graphics Design System) is a programmable graphics system providing drawing, edit and display, and file management functions.

 - GDS II was introduced in 1978. Currently, there are 3,000 seats installed worldwide.

 - GDS II runs in the Data General Eclipse minicomputer environment.

 - GDS II application packages include the following:

 - CustomPlus T.M., a VLSI circuit design system featuring a symbolic hierarchical methodology.

 - Spacer II, a compaction program.

 - TechPlus, a program targeted at designers of thick and thin film hybrid circuits.

 - Calma's target market for GDS II are IC manufacturers, semiconductor foundries, computer manufacturers, and aerospace companies.

 - BOARD Series T.M. CAE/CAD/CAM/CAT tools provide PCB designers with an integrated solution--schematic capture, simulation, design verification, and test development capabilities.

 - The Board Series tools are available on Apollo workstations.

 - Major clients include aerospace companies and computer, peripheral, and telecommunications equipment manufacturers.

- Prism/DDM T.M. is Calma's three-dimensional geometric modeling system for mechanical applications.

 - Prism/DDM is a fully integrated CAE/CAD/CAM system targeted at users in the automotive, aerospace, electromechanical, and manufacturing industries.

 - Originally introduced in 1976 as DDM (Design, Drafting and Manufacturing), Prism/DDM is compatible with DDM in use today. There are 3,300 seats installed worldwide.

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- DAL (Design Analysis Language), a command language, is available to extend or modify the functions of Prism/DDM. DAL allows the user to tailor a general purpose system for specific applications.

- Applications software for Prism/DDM is as follows:

 - Engineering Analysis offers transfer capabilities through the implementation of the IGES Experimental Solids Proposal (ESP).

 - Plastics Design and Manufacturing System is for developing and manufacturing parts and molds for the injection molding industry.

 - Numerical Control (NC) system offers NC tool path generation, verification, and post-processing capabilities.

 - Sheet Metal Design and Fabrication system is an integrated system for the design and fabrication of sheet metal parts.

 - Coordinate Measuring Machine (CMM) interface is an automated testing software package that works with three-dimensional model geometry to program CMMs.

 - Robot-Sim$^{T.M.}$ is for off-line robot programming allowing a user to put a robot through its pace on the Calma system rather than through "trial and error" on the factory.

 - Prism/DDM system runs on DEC VAX and MicroVAX II computers and Apollo computer workstations.

- DIMENSION III is Calma's three-dimensional interactive graphics system for architectural, engineering, and construction (AEC) applications.

 - The company's targeted markets for DIMENSION III are the engineering/construction, oil and gas, chemical, utility, and shipbuilding industries.

 - Currently, there are 1,000 seats installed worldwide.

 - DIMENSION III performs design, drafting, and engineering tasks for the following application-specific areas:

 - Process and instrumental design.
 - Piping systems design and analysis.
 - Pipe flow analysis.
 - Equipment arrangement.
 - Steel layout, design, detailing, and analysis.
 - Concrete layout and design.
 - Electrical schematics.
 - Electrical raceway layout and design.

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- HVAC systems design.
- Mapping and civil site preparation.
- Subterranean modeling.
- Architecture and facilities layout.
- Project review terminal.

- In addition, DIMENSION III features an interference checking capability.

- DAL, Calma's user programming language, is also fully compatible with DIMENSION III.

- DIMENSION III runs on DEC VAX and MicroVAX II computers and Apollo workstations.

- A project Data Base System allows non-graphic information resident in the three-dimensional model data base to be structured for an external relational data base management system.

- Calma's support services include pre-site planning, pre-installation preparation, system installation, maintenance, and upgrade assistance.

 - Calma offers standard, expanded, and limited maintenance contracts or a customized maintenance program.

 - Calma has a field service force of approximately 200 worldwide.

INDUSTRY MARKETS

- Revenue for 1986 was derived from the following industry segments:

Mechanical	50%
Electronics	25
AEC	25
	100%

- Major clients include Chrysler, Boeing, NCR, Hitachi, and Union Carbide.

GEOGRAPHIC MARKETS

- Approximately 50% of Calma's 1986 revenue was derived from the U.S. The remaining 50% was from Europe and the Far East.

- The company has 60 offices worldwide.

 - U.S. offices are located in 30 cities. Some of the office locations include Atlanta, Bellevue (WA), Dallas, Denver, Southfield (MI), Windson (CT), Houston, Indianapolis, Minneapolis, Orlando, Portland, Raleigh, San Diego, Milpitas (CA), St. Louis, Tempe, Vienna (VA), Waltham (MA), and Edison (NJ).

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- International offices are located in Canada, England, Belgium, France, Germany, Italy, Japan, Sweden, Taiwan, Korea, Brazil, China, Austria, Finland, and Israel.

COMPUTER HARDWARE AND SOFTWARE

- Calma has the following computers installed at its research and development facilities in Milpitas (CA) and San Diego, operating under VMS and Calma Disk Operating System (CDOS):
 - Data General ECLIPSE S280s.
 - Data General S140s.
 - DEC VAX-11/730s.
 - Sun workstations.

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COMPANY HIGHLIGHT

CALMA COMPANY
2901 Tasman Drive
Santa Clara, CA 95050
(408) 748-9600

Robert J. Smuland, President
Wholly Owned Subsidiary of General Electric Company, U.S.A.
Total Employees: 1,800
Total Revenue, Fiscal Year End 12/31/82: $140,000,000

THE COMPANY

- Calma Company, founded as a private company in 1964 to develop and market digitizing equipment, now provides computer-aided design and computer-aided manufacturing (CAD/CAM) turnkey systems for electronics, mechanical, and architectural, engineering, and construction applications.
 - In 1978 Calma was acquired by United Telecommunications, Inc. and became a division of its United Computing Systems, Inc. subsidiary.
 - On April 1, 1981, Calma was acquired from United Telecommunications by the General Electric Company, U.S.A. (GE).
 - The agreement called for an immediate payment of $100 million, with an additional cash payment to be made in 1985 based on Calma's sales performance from 1981 through 1984. GE and United Telecommunciations have estimated that payment could reach $70 million.
 - Calma had sales of $50 million for the fiscal year ending September 30, 1980. Calma's fiscal year end was changed to December to conform with that of its parent company.
- Calma's 1982 revenue reached approximately $140 million, a 35% increase over 1981 revenue of about $105 million.
 - The company has grown at more than 50% compounded annually over the past five years.
 - Calma management estimates 1983 revenue will exceed $200 million.
- As of December 1982 Calma had 1,800 employees. The company currently has 1,500 employees, 1,300 of which are based in the U.S. and 200 in foreign locations.
- Major competitors include Computervision, Intergraph, Applicon, and Autotrol Technology Corporation.

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KEY PRODUCTS AND SERVICES

- One hundred percent of Calma's 1982 revenue was derived from CAD/CAM turnkey systems.

- Calma's CAD/CAM turnkey systems have been designed for three distinct application areas: electronics; mechanical products; and architectural, engineering, and construction (AE&C). Calma currently has over 1,300 systems installed worldwide.

- Electronics software available on Calma's systems includes the following:

 - GDS II (Graphics Design System) is an interactive graphics system for circuit board layout, production, and documentation. It forms the basis for all of Calma's electronics applications programs.

 . GDS II includes integrated circuit (IC) layout, printed circuit (PC) layout, programmable primitive cells, automatic placement and routing, schematic layout and net list extraction, automatic continuity checking and schematic back annotation, analysis and verification tools, two-dimensional mechanical drafting and documentation with auto dimensioning, PC documentation, and CAM output.

 - GPL II™ is a high-level graphics programming language permitting custom modification of graphics software for individual user needs.

 - CHIPS (Integrated Circuit Design System) is a two-dimensional interactive graphics system for very large-scale integrated circuit (VLSI) design work.

 . The system features 32-bit precision to support VLSI work, color graphics terminals for designers, and software aids to enhance design implementation.

 . Used in conjunction with GDS II, CHIPS features a resolution of one part in four billion and stores drawings on a 300 megabyte disk system.

 . Other features permit up to four menu levels which can contain up to 512 commands each. The GPL II language can be used to develop new menu commands.

 - STICKS (Symbolic IC Design) is a symbolic IC design system that allows designers to use symbols far less complex than actual circuit elements for IC layout. STICKS uses an automatic spacing system to accomplish circuit layout in as small a space as design rules allow.

 - CARDS (Printed Circuit Design) is an interactive graphics system for PC design and production.

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 - The system encompasses all aspects of PC design and production from digitizing a schematic through final documentation and artwork.

 - Features include net list generation; packaging, placement, and routing; automated design review; and numerical control (NC) drill and photoplot output.

- Mechanical applications software available on Calma's systems includes the following:

 - DDM (Design, Drafting, and Manufacturing System), introduced in 1977, is a three-dimensional computer-aided design, drafting, and manufacturing system.

 - DDM capabilities range from product design analysis, simulation, modeling, and detailing to product engineering tooling, documentation, and numerical control.

 - DDM supports international and domestic drafting standards, including dual dimensioning.

 - DAL (Design Analysis Language), a command language, is available to extend or modify the functions of DDM. DAL allows the user to tailor a general purpose system for specific applications.

 - Calma provides products based on DDM for specific mechanical applications including:

 - Solids modeling and mass properties (DDM/SOLIDS).
 - NC/toolpath generation.
 - Shapecutting and parts nesting.
 - Printed circuits (DDM/PC).
 - Plastic part mold design (DDM/PLASTICS).
 - Schematics.
 - Ladder diagrams/programmable controls.
 - Finite element modeling with interfaces to most popular finite element analysis programs (DDM/FEM).

- DIMENSION III is Calma's three-dimensional interactive graphics system for architectural, engineering, and construction applications.

 - DIMENSION III performs design, drafting, and engineering tasks for the following application-specific areas:

 - Process and instrumentation diagramming.
 - Electrical schematics.
 - Equipment arrangement.
 - Piping layout and design.

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 - . Steel layout and design.
 - . Civil site preparation.
 - . General mapping.
 - . Subterranean modeling.

- These systems also interface with many third-party engineering software packages.

- Calma offers two systems software products to facilitate integration of the client's entire design, manufacturing, and construction cycle.
 - Calma's Data Management Control System (DMCS) provides data base management for the integrated CAD/CAM network.
 - CalmaNet, introduced in 1982, is a software interface which permits communication between CAD/CAM systems, linking the client's various computers and workstations into one network.
- Each Calma client can select hardware configuration components and applications software that best fit their CAD/CAM system requirements.
 - Pricing for Calma's systems is bundled and varies according to hardware configuration, software, and number of units purchased. Systems are priced from under $100,000.
- Until mid-1983 Calma's systems were available in various hardware configurations as follows:
 - Series 170 systems, low-cost Data General ECLIPSE-based configurations featuring a single display for both graphics and alphanumerics and a Winchester disk in place of a hard disk.
 - Series 1000 systems, Data General minicomputer-based single cabinet hardware configurations supporting two workstations and using any Calma software.
 - Series 2000 systems, Data General minicomputer-based cluster systems designed for the large-scale user, supporting up to six workstations and using any Calma software.
 - Series 7000 systems, 32-bit DEC VAX-based systems capable of supporting up to 12 workstations, using DDM or Dimension III software.
- In June 1983 Calma announced plans to revamp the hardware component of its product offerings in preparation for new product announcements regarding implementation of Data General, DEC, and Apollo equipment scheduled for the remainder of 1983 and 1984. The new product designation strategy is based on three series of hardware configurations. Each series defines the type of base processor used as well as where and how in a company structure the processor is located, as follows:

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- Series P (project design and drafting) systems are minicomputer-based and are typically located in large design and drafting centers. In June 1983 Calma introduced three systems in this series, each offering high-resolution color graphics workstations and expandability regarding the number of workstations, storage capacity, and peripherals.

 . The Calma P2140 and P2145 are based on Data General's S140 minicomputer.

 . The Calma P4280 is based on Data General's ECLIPSE S280 minicomputer.

- Series C (central design, analysis, and simulation) super minicomputer-based systems will be used for large-volume, computer-intensive design, analysis, and simulation tasks. These systems will be located in environmentally-controlled computer centers for large mainframes.

- Series D (design, drafting, and engineering workstation) systems will be microprocessor-based and suited to the office environment. The systems will operate on conventional power and require no special environmental controls.

- Ultimately, each series will be available with any one of Calma's existing applications software systems. Each of the product series will also have the ability to communicate within its own series, series-to-series, and with host computers via CalmaNet.

 . Calma will be introducing several models of its revamped series in fall 1983.

- Calma's support services include pre-site planning, pre-installation preparation, system installation, maintenance, and upgrade assistance.

 - Calma offers standard, expanded, and limited maintenance contracts, or a customized maintenance program.

 - Calma has a field service force of approximately 150 worldwide.

INDUSTRY MARKETS

- Calma's 1982 revenue was primarily derived from the discrete manufacturing (electronics and automotive), process manufacturing, architectural design and engineering, and utilities industry sectors. Calma also has clients in education (universities) and the federal government.

GEOGRAPHIC MARKETS

- Approximately 70% of Calma's 1982 revenue was derived from the U.S. The remaining 30% was derived primarily from Western Europe, Japan, and the Far East.

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- U.S. offices are located in 39 cities. Some of the office locations include Albuquerque, Aptos (CA), Atlanta, Bellevue (WA), Dallas, Denver, Grand Rapids, Hartford, Houston, Indianapolis, Minneapolis, Orlando, Portland, Raleigh, San Diego, Santa Clara (CA), St. Louis, Tempe, Vienna (VA), Waltham (MA), and Woodbridge (NJ).

- International offices are located in Canada, England, Belgium, France, Germany, Italy, and Spain. Calma also has foreign distributors in Australia, Japan, Sweden, Israel, and Taiwan.

COMPUTER HARDWARE AND SOFTWARE

- Calma has the following computers installed at its research and development facilities in Sunnyvale and San Diego, operating under VMS and Calma Disk Operating System (CDOS):

 - Data General ECLIPSE S280s.
 - Data General S140s.
 - DEC VAX-11/730s.

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

February 1996

Cambar Software, Inc.

President: **Roger K. Davis**
4975 LaCross Road
Charleston, SC 29406
Phone: **(803) 747-4900**
Fax: **(803) 554-2970**

Status:	Private
Employees:	85
Revenue:	$ 8,000,000*
Fiscal Year End:	12/31/95

** INPUT estimate*

Company Description

Cambar Software provides a complete distribution software package for large distributors and manufacturers. The company offers three products—The CONTROL II System, the Client/Server Warehousing System and the Shipping Management System.

The company considers its strengths to be its complete distribution and logisitics solution, available with a choice of operating environments.

Financials

INPUT estimates that Cambar's revenue is approximately $8 million.

One hundred percent of revenue is derived from applications software products and associated support services.

Market Financials

Approximately 70% of Cambar's revenue is derived from wholesale distributors and 30% from manufacturers.

Geographic Markets

Virtually all of Cambar's revenue is derived from the U.S. The company has international clients in Canada and the U.K.

In addition to its headquarters, Cambar has five offices across the U.S. and Canada.

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Key Products and Services

All of Cambar's software products are built on portable, open systems platforms, relational technology and object-oriented programming architecture.

The CONTROL II System is a redesigned version of the company's original CONTROL System.

- CONTROL II modules include:
 - Customer Order Processing
 - Inventory Control/Forecasting
 - Purchasing Management
 - Returns Management
- There are more than 70 CONTROL/CONTROL II clients worldwide.

Cambar's Client/Server Warehousing System automates warehousing functions and works interactively with RF/bar coding.

The Shipping Management System fully automates the shipping process, including manifest generation and label production.

Support services include:

- Requirements analysis
- Customization
- Hardware sizing
- Installation
- User and technical training
- Full documentation and on-line help
- Source code
- Helpline support
- Maintenance agreements

Clients

Representative software clients include distributors and manufacturers with sales from $60 million to more than $1 billion, including ACCO, Canadian Bearings, Champion International, Florist Transworld Delivery (FTD), Ingram Micro, Simon & Schuster, Makita, MCA Distribution, Pioneer Electronics and Zellerbach.

Marketing and Sales

Cambar sells its software through a direct sales force.

Alliances

Cambar has marketing arrangements with several radio frequency equipment vendors.

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Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

October 1994

Cambar Software, Inc.

President: Roger K. Davis
4975 LaCross Road
Charleston, SC 29406
Phone: (803) 747-4900
Fax: (803) 554-2970

Status:	Private
Employees:	75
Revenue:	$ 8,000,000*
Fiscal Year End:	12/31/94

* INPUT estimate

Company Description

Cambar Software provides a complete distribution software package for large distributors and manufacturers. The company offers three products—The CONTROL II System, the Client/Server Warehousing System and the Shipping Management System.

Financials

INPUT estimates that Cambar's revenue is approximately $8 million.

One hundred percent of revenue is derived from application software products and associated support services.

Market Financials

Approximately 80% of Cambar's revenue is derived from wholesale distributors and 20% from manufacturers.

Geographic Markets

Virtually all of Cambar's revenue is derived from the U.S. The company has international clients in Canada and the U.K.

In addition to its headquarters, Cambar has offices in Chicago, Dallas, Los Angeles and New York.

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Key Products and Services

All of Cambar's software products are built on portable, open systems platforms, relational technology and object-oriented programming architecture.

The CONTROL II System is a redesigned version of the company's original CONTROL System.

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The Shipping Management System fully automates the shipping process, including manifest generation and label production.

Support services include:

- Requirements analysis
- Customization
- Hardware sizing
- Installation
- User and technical training
- Full documentation and on-line help
- One-year warranty and enhancements
- Source code
- Helpline support
- Maintenance agreements

Clients

Representative software clients include distributors and manufacturers with sales from $60 million to more than $1 billion, including ACCO, Canadian Bearings, Champion International, Florist Transworld Delivery (FTD), Ingram Micro, Macmillan Publishing, Makita, MCA Distribution, Pioneer Electronics and Zellerbach.

Marketing and Sales

Cambar sells its software through a direct sales force.

Alliances

Cambar has marketing arrangements with several radio frequency equipment vendors.

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CAMBAR SOFTWARE, INC.
4975 La Cross Road
Charleston, SC 29418
Phone: (803) 747-4539
Fax: (803) 554-2970

Roger K. Davis, President
Private Company
Total Employees: 70
Total Revenue, Fiscal Year End
12/31/91: $7,500,000*

*INPUT estimate

The Company

Cambar Software, Inc., formed in 1981, develops, markets and supports customer order processing and inventory management software products for wholesale distributors and manufacturers. The company's principal product is the CONTROL™ System.

Cambar's revenue grew by about 20% from 1990 to 1991.

Key Products and Services

One hundred percent of Cambar's revenue is derived from applications software products and associated support services.

The CONTROL System is a customer order processing and inventory management system that supports the distribution functions of large distributors and manufacturers.

- CONTROL is available for IBM 43xx, 30xx, 937x, and S/390 mainframes.
- Integrated, on-line, CONTROL modules include:
 - Customer Order Processing
 - Inventory Control/Forecasting
 - Returns Management
 - Purchasing/Receiving (for distributors)
 - Manufacturing Interface (for manufacturers)
 - Sales Analysis
 - Warehouse Management
 - RF/Bar Code Processing
 - Distribution Resource Planning (DRP)
 - Customer Remote Order Entry (CAPS)
 - EDI Translator
 - EDI Interface
 - Accounts Receivable
 - Accounts Payable

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- General Ledger
- Electronic Mail

· There are currently over 65 CONTROL clients worldwide.

Cambar also offers a standalone Warehouse Management product with RF/Bar Code Processing for either IBM mainframes or PS/2 LAN environments.

Support services include:

· Requirements analysis
· Customization
· Hardware sizing
· Installation
· User and technical training
· Full documentation and on-line help
· One-year warranty and enhancements
· Source code
· Helpline support
· Maintenance agreements

Industry Markets

Approximately 80% of Cambar's revenue is derived from wholesale distributors and 20% from manufacturers.

Representative software clients include distributors and manufacturers with sales from $60 million to over $1 billion, including Canadian Bearings Ltd., Champion International, Florists Transworld Delivery (FTD), Hall-Mark Electronics, Ingram/Micro, Makita USA, MCA Records, NIBCO Inc., Owens and Minor, Pioneer Electronics (USA), Savin Corp., Sears Roebuck (Contract Sales Division), and Zellerbach.

Geographic Markets

Virtually all of Cambar's revenue is derived from the U.S. The company also has three international clients (one in Canada, one in Italy, and one in the U.K.)

In addition to its headquarters, Cambar has offices in Chicago, Dallas, Los Angeles, and New York City.

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COMPANY BRIEF

Primary Industry-Specific Market: Distribution

Cambar Business Systems, Inc.
4975 LaCross Road
Suite 200
Charleston, SC 29411
(803) 747-4539

CEO: Roger K. Davis, President
Private Company
Founded: 1981

Employees: 40 (11/86)
Revenue (FYE 12/31/85): $4,000,000*

The Company: Cambar develops and markets customer order processing and inventory management software products for distributors and manufacturers

Sources of Revenue:
- Application Software (100%)

Key Products:
- Application Software Products (Utilizes IBM 4300 or larger computers)
 - CONTROL is an integrated on-line product for multi-branch distributors. Applications include order entry, billing, accounts receivable, sales analysis, accounts payable, purchasing, inventory control, general ledger, fixed asset depreciation, payroll, and interbranch messaging. Currently, there are 35 installations of CONTROL in the U.S.

Target Industries:
- Distribution (80%)
- Manufacturing (20%)

Geographic Markets:
- U.S. (100%)
- Sales Offices: East Windsor (CT), Oakbrook Terrace (IL), and Newport Beach (CA)

*Company estimate

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program

May 1998

Cambridge Technology Partners-Baan Services Providers

Contact Information for Baan Services in North America
Marketing Director and Baan Alliance Manager: **Jennifer Daniels**
Cambridge Technology Partners
230 West Monroe Street, Suite 2600
Chicago, IL 60606
USA
Phone: **312-214-0405**
Fax: **312-214-5100**
Internet: **www.ctp.com**
E-mail: **jdanie@ctp.com**

The following profile outlines the services and support offered by Cambridge Technology Partners for Baan Services.

Company Background

Cambridge Technology Partners is a new breed of management consulting and systems integration firm. Founded in 1991, Cambridge has applied a unique set of core values to the consulting and application development markets to fundamentally reinvent the way business and technology solutions are delivered. Cambridge services span strategic consulting, process innovation, custom and package software deployment including ERP applications, networking and training to rapidly deliver end-to-end business systems that create immediate bottom-line impact for their clients.

The Cambridge core values drive growth by enabling Cambridge to share project risk with clients, while delivering strategic business solutions that improve their competitive positioning. The Cambridge core values include:

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A Focus on Innovation

Cambridge delivers growth-oriented solutions that yield a high return on investment—solutions that make their clients smarter and faster than their competition, not just downsized and more efficient. As a result, projects quickly pay for themselves, promoting high client satisfaction and repeat business for Cambridge.

The Need for Speed

Cambridge deploys innovative solutions rapidly, while they still have strategic impact. The Cambridge methodology, tightly integrated services and developmental efficiencies lead to outstanding results that are delivered in extremely short time frames.

On-Time, On-Budget Delivery

Cambridge commits to successful deployments with fixed time/fixed price contracts. This approach lessens the risk to clients and imposes a discipline to deliver projects on time and on budget.

The Soft Skills

To ensure that clients use the solution that Cambridge delivers to its full potential, Cambridge also addresses the people, behavioral and organizational issues. Cambridge builds consensus on objectives and functionality to gain buy-in from all parties—up front—to ensure that all are committed to the project's success.

Knowledge Leadership and Transfer

During projects and through Cambridge's educational services, knowledge and technical expertise gained on hundreds of projects is transferred willingly to clients. The Cambridge staffing model requires active client participation. Consequently, at the end of an engagement, there is no "hand off" to the client because client personnel are an integral part of the solutioneering and implementation process. Additionally, the Cambridge executive education programs, including the Cambridge Management Lab and the Cambridge Information Network (CIN), focus on interactive exchanges that leverage both Cambridge and client experience and provide thought leadership in the IT arena.

Business-Driven Results

Cambridge crafts technology solutions that support the client's business strategies and prioritize functionality to ensure that every component of the application creates business value. This means that Cambridge delivers the return on investment promised at the outset of the project.

With 1997 global revenues of nearly $407 million, Cambridge Technology Partners has 45 offices worldwide and is a publicly owned company.

Cambridge has a strong presence throughout North America with over 30 offices in the United States, Mexico and Canada.

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Baan Activities

Cambridge Technology Partners entered the Baan services market in 1997.

Since Cambridge does not divulge financial information by region or service offering, North American and Baan service revenues are not provided.

Employees

Worldwide, Cambridge has 3,200 employees, of which 2,100 are located in North America. Baan staffing data is not provided, since the company does not divulge personnel or staffing information.

Approaches

The Cambridge methodology, *Momentum for Baan*, supports every phase of a Baan effort with a rapid, fixed-time/fixed price model. Services include:

Project Scope

A new approach to developing business solutions—completed in 1-3 weeks—that builds consensus on the functional requirements to be delivered, quantifies the business benefits for an application and defines all design and implementation phases.

Package Confirmation Workshop

A rapid approach to the confirmation of the Baan solutions selected based on the client's business case and built upon consensus.

Business Process Prototype/Design

"Kick starts" the package development effort by defining detailed application functionally based on renewed business processes. It also maps closely to BAAN Dynamic Enterprise Modeling (DEM). The deliverables to the client include a technical design, phased implementation plan and deployment model. Knowledge is transferred to the client throughout the development process.

Package Deployment

Delivers—on time and on budget—fully functional applications installed in a production environment. Deliverables include technical integration, customization, user/technical documentation, conversion and user acceptance testing.

Package Rollout

Rollout of primary functionality to achieve maximum return and benefits from Baan investments; delivers training, performance analysis and continuing assimilation.

Additional Cambridge Services include:

Rapid Business Renewal

An innovative approach to business re-design—delivered quickly in a fixed-time/ fixed price model—that re-defines business processes to take advantage of the features and capabilities of the new packages being deployed.

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Educational Services

A total training solution—focusing on leading edge functional and technical skills, project management and cultural assimilation— for today's high-performance IT organizations.

Cambridge Network Services

Rapid, effective deployment of enterprise-wide, distributed computing solutions.

Custom Rapid Application Development

Rapid, fixed-time/fixed-price development of custom applications—such as customer management systems—to enhance the enterprise.

Ongoing Support Offerings

Cambridge extends Baan architecture by web-enabling key functionality into applications and by adding work-flow components and upgrade services for Baan Customers.

Pricing Approaches

Cambridge quotes all engagements using a unique fixed-time / fixed-price pricing model. However, at a client's request, both time and material and value pricing are options.

Alliances and Partnerships

Cambridge has service experience with Aurum and in-depth experience in the implementation of customer management solutions, particularly in sales force automation and call center applications. Cambridge has partnership agreements with all premier hardware and platform providers including Sun Microsystems, Hewlett-Packard, IBM and Microsoft. Cambridge also has alliances and implementation experience with emerging supply chain software vendors.

Vertical Market Competencies

Cambridge is not organized by vertical market, but rather leverages best practice knowledge that spans all targeted Baan industries. Revenue and project data by vertical market and market sub-segment is not provided, since Cambridge does not divulge such information for specific practice areas.

Exhibit 1 details Cambridge's participation in seven broad market categories, in terms of the level of consulting or implementation involvement (e.g., consulting with the client, who will then perform the implementation, or implementing the Baan system for the client).

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Exhibit 1

Level of Vertical Market Involvement, by Activity

Vertical Market	Consulting	Implementation
Aerospace & Defense	High	High
Automotive	Medium	Low
Process Industries	High	High
Hybrid	High	High
Project Industries	Medium	Low
Electronics	Medium	Medium
General Manufacturing	High	High

Source: Cambridge Technology Partners

Strategic Positioning

Cambridge Technology Partners' key market differentiators include the combination of rapid implementation methodologies paired with a guaranteed fixed-time/fixed-price delivery model which leads to a faster return on clients' Baan technology investment. The complete suite of services Cambridge offers means that a client need hire one consulting firm to manage all aspects of business transformation and technology implementation. Additionally, Cambridge has vast implementation experience which spans most supply chain software, and has extensive experience integrating front office, back office and operations centers to create robust end-to-end business solutions.

Plans for the Future

Cambridge Technology Partners expects its Baan practice to be one of the fastest growing practices in North America. Cambridge intends to be the market leader in the delivery of fixed-price/fixed-time Baan solutions.

Selected Customer Projects

Cambridge Technology Partners does not divulge client information by practice, however client references are available upon request.

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

June 1996

Cambridge Technology Partners, Inc.

Chairman: Warren V. Musser
President & CEO: James K. Sims
304 Vassar Street
Cambridge, MA 02139
Phone: (617) 374-9800
Fax: (617) 374-8300
Internet: http://www.ctp.com



Status:	Public
Employees:	1,300 (6/96)
Revenue:	$132,416,000
Fiscal Year End:	12/31/95

Key Points

- Cambridge Technology Partners (Cambridge) provides systems integration and professional services to enterprises using or migrating to open systems environments using client/server architectures.
- In the second half of 1995, Cambridge strengthened its service offering through the acquisitions of The Systems Consulting Group, Inc. (SCG) and Axiom Management Consulting, Inc. SCG and Axiom provide Cambridge additional expertise in packaged software evaluation and implementation, and business process redesign, respectively.
- During 1995, European revenues increased 142%, representing 22% of total revenue for the year. Cambridge opened offices in Frankfurt (Germany), Oslo (Norway), and Dublin (Ireland). The company is working to establish offices in Latin America and Southeast Asia and will continue to expand into major cities in North America and Europe in 1996.

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- On May 15, 1996, Cambridge announced a 3-for-1 stock split.

Company Description

Cambridge is an international systems integration and professional services firm that provides software development and consulting services to organizations with large-scale information processing and distribution needs that are using or migrating to open systems computing environments and client/server technology.

- Services are provided at the enterprise-wide, specific business process, and application software levels of an organization.

- Upon the completion of consulting services, Cambridge designs, develops, and implements one or more strategic software applications, which may include custom and third-party packaged software, and then rolls out such applications to the organization's end users. These software applications are designed to achieve a competitive advantage, enhance the efficiency and functionality of specific business processes and support financial goals of the client.

- Cambridge may also assist clients in providing end-user training for managing the organizational changes that accompany the roll-out of new applications and the assimilation of such applications into the production environment.

- Cambridge provides network analysis, design, and deployment services to assist its clients in implementing applications in an open systems environment.

- Cambridge also provides packaged software evaluation and implementation as independent service offerings.

- While the early stages of a client engagement may result in a relatively small amount of revenue, a client project that involves the design and development of a custom strategic software application typically results in fees ranging from $1 million to $3 million.

- Cambridge has performed services for clients in a range of industries. Industrial companies and clients in the aerospace, insurance, financial services, telecommunications, and consumer products industries, as well as state and local governmental agencies, have historically provided the greatest source of revenue.

Cambridge was formed in March 1991 under the common control of Safeguard Scientifics, Inc., Radnor Venture Partners, and Cambridge Technology Group, Inc. (CTG) to continue to conduct the systems integration and software development business of CTG.

- In April 1993, Cambridge completed an initial public offering of 2.6 million shares of common stock, of which 800,000 shares were sold by the company and the balance by Safeguard Scientifics, Inc. Net proceeds to Cambridge from the sale were approximately $3.7 million.

- In March 1994, Cambridge completed a second public offering of 2.5 million shares of common stock, of which 500,000 shares were sold by the company and the remainder by certain stockholders. Net proceeds to the company of $6.9 million will be used for general corporate purposes, including working capital to support the expansion of its North American and international operations and to fund capital expenditures and possible acquisitions.

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Cambridge's current principal stockholder is Safeguard Scientifics, which owns 22.9% of Cambridge's shares.

Organization and Structure

Cambridge's key executives are listed below:

Cambridge Key Executives

Name	Title
James K. Sims	President and CEO
Robert L. Gett	President Cambridge Technology Partners (North America)
Christopher H. Greendale	SVP Marketing
Thomas G. Richardson	SVP Worldwide Domains
William A. Seibel	SVP International Operations
Michael A. Korchinsky	President of Axiom
Arthur M. Toscanini	SVP Finance, CFO
Susan J. Loker	SVP Human Resources

Cambridge is headquartered in Cambridge (MA).

U.S. regional sales offices are in Atlanta (GA), Dallas (TX), Detroit (MI), and Seattle (WA). Additional sales and operations facilities are in the Chicago, Los Angeles, Miami, New York, and San Francisco metropolitan areas and in Lansing (MI).

Cambridge Scandinavia (formerly IOS Group AB) provides services in Sweden, with offices in Linkoping, Stockholm, and Malmo. Other European offices are in Amsterdam (the Netherlands), Dublin (Ireland), London (England), Frankfurt (Germany), and Oslo (Norway).

Cambridge's Network Services Group, established in 1994, provides network design, analysis, and planning services to build the infrastructure clients need to support a distributed computing environment. In addition, The Management Lab was established during 1994 to provide clients with research and educational services.

Axiom Management Consulting, Inc. is a wholly owned subsidiary of Cambridge acquired in October 1995 that provides management consulting services, focusing on business process redesign.

Company Strategy

Cambridge's objective is to be the leading provider of enterprise-wide information technology (IT) solutions for organizations with large-scale information processing and distribution needs that are using or migrating to open systems computing environments.

The company's strategy for achieving this goal includes the following elements:

- *Structuring client projects at fixed prices and fixed timetables*—Cambridge helps clients align desired IT solutions and technology investment by using rapid software development techniques to deliver IT solutions on a fixed-price and fixed-timetable basis. At the commencement of a project engagement, Cambridge and its clients agree on the nature of project deliverables, a price, and a timetable for the project. Cambridge's goal is to keep individual application development projects under nine months in duration to increase the client's ability to use the IT solution to maximize competitive advantage.

 Cambridge continues to develop a library of object-oriented software components to be reused in software application development in order to further improve the efficiency and quality of the application development process.

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- *Developing strong partnering relationships with clients*—Cambridge's interactive approach to problem solving and application software development involves consensus-building among a client's executives, computer system end users, and MIS professionals to strengthen client relationships. This approach also enables Cambridge to design, develop, and implement IT solutions that allow the client to achieve competitive advantage, enhance the efficiency and functionality of specific business processes, and support financial goals. Whether developing an open enterprise plan for implementing an enterprise-wide migration to an open computing environment or developing single or multiple strategic software applications, Cambridge seeks to establish itself as the client's preferred source for strategic IT solutions.

 The company also extends its partnering relationships with clients beyond specific engagements by offering educational and training programs through its interactive management lab and CIO Forums and other information-sharing programs that provide clients with opportunities to exchange ideas with their peers as well as learn about new information technologies and client/server trends.

- *Facilitating migration to flexible computing environments*—Cambridge's application development process enables clients to develop an open computing environment incrementally by implementing strategic software applications that can operate across existing hardware platforms and leverage existing information processing infrastructure. The company's approach to implementing IT solutions in most cases involves the introduction or further implementation of client/server architectures. The migration to open computing environments also provides opportunities to rebuild or redesign existing host-based software applications. Clients can also take advantage of Internet-based solutions.

- *Providing additional service offerings*—Through the acquisitions of SCG and Axiom, Cambridge has extended its service offerings to include packaged software evaluation and implementation and business process redesign consulting. Cambridge believes that combining business process redesign consulting with IT solutions will give it a competitive advantage by providing a source of software development projects. Cambridge will continue to provide additional services to satisfy the IT needs of its clients.

- *Capitalizing on domain expertise*—As a result of Cambridge's information technology consulting and development activities, the company has developed strategic expertise in certain client applications. The areas of expertise, or "domains," include customer management systems, core applications (financial, payroll, human resources, and manufacturing/distribution), business intelligence/data warehousing, remote work force automation, and training services. Cambridge intends to capitalize on its experience in these domains and has appointed Tom Richardson (formerly the president of SCG) to serve as Senior Vice President of Worldwide Domains with responsibility for identifying and developing domain expertise within the company.

- *Market expansion*—Cambridge believes that a strong domestic presence enhances competitiveness. The company plans to continue to expand domestically through the

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establishment of additional regional sales offices and operations facilities in major North American cities.

To capitalize on market opportunities in Europe, Cambridge has established sales offices in Germany, Ireland, and Norway, as well as sales and operations facilities in England, Sweden, and the Netherlands. Cambridge also plans to continue to increase its international presence in Europe and create a presence in Southeast Asia and Latin America by establishing sales offices and operations facilities, and joint ventures.

- *The Internet*—Cambridge's Internet initiative, announced in February 1996, is designed to enable new business processes for distributed IT environments and leverages Cambridge's expertise in integrating external Web sites with strategic business applications built on internal networks. Cambridge is forming various partnerships with Netscape (Netscape-authorized training centers), Sun (Java training), Connect (servers), and Raptor Systems (firewalls).

 KnowledgeShare, introduced in late 1995, is Cambridge's technology solution to help clients capture, apply, and share internal knowledge using the Internet and the World Wide Web. It consists of an Intranet framework, a World Wide Web home page, a flexible knowledge repository, and a training workshop.

Financials

In the discussion that follows, financials have been restated to reflect the pooling-of-interests acquisitions of The Systems Consulting Group, Inc. and Axiom Management Consulting during 1995.

Cambridge's 1995 revenue reached $132.4 million, a 59% increase over 1994 revenue of $83.5 million.

- *Pro forma* net income for 1995 was $12.5 million and includes business combination costs of $1.3 million ($0.05 per share) related to the acquisitions of SCG and Axiom, partially offset by a gain of $909,000 ($0.03 per share) related to the sale of Cambridge's interest in AdValue.

- A five-year financial summary is shown on the following page.

Cambridge management attributes 1995 revenue increases to an increase in the volume of services delivered to new clients, as well as leveraging the client base by undertaking additional projects for existing clients.

- North American revenue increased 45% to $103.8 million, reflecting a 42% revenue growth of Cambridge's newly acquired companies (SCG and Axiom) in 1995 compared to 1994.

- European revenue accounted for $28.6 million, or 22% of consolidated revenue in 1995, up from $11.8 million (14% of revenue) for the same period in 1994.

Cambridge's process for projects is divided into six stages, beginning at one of two stages, one being business renewal and the other being a scope. The commencement of a particular stage of a project does not necessarily result in the commencement of any other stage. Therefore, the number of clients is not necessarily a reliable measure of net revenue.

- In 1995, Cambridge's twenty largest clients accounted for approximately 47% of

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revenue, compared to 54% and 62% in 1994 and 1993, respectively.

- Cambridge's revenue concentration by client continues to decrease, reflecting Cambridge's client base growth in both North America and Europe.

Cambridge Technology Partners, Inc.
Five-Year Financial Summary
($ Millions, except per share data)

	Fiscal Year				
Item	1995	1994	1993	1992	1991
Revenue	$132.4	$83.5	$50.0	$32.1	$19.1
• Percent change from previous year	59%	67%	56%	68%	N/A
Income before taxes	$20.8	$12.0	$6.1	$3.2	$0.2
• Percent change from previous year	73%	98%	92%	*	N/A
Pro forma net income (loss)	$12.5	$7.0	$4.8	$1.8	$(0.1)
• Percent change from previous year	(a) 77%	46%	(b) 169%	*	N/A
Earnings (loss) per share	$0.74	$0.46	$0.34	$0.14	$(0.01)
• Percent change from previous year	(a) 61%	35%	(b) 143%	*	N/A

* *Percent change exceeds 1,000%.*

(a) Includes business combination costs of $1.3 million ($0.05 per share) related to the acquisition of SCG and Axiom and a gain of $909,000 ($0.03 per share) related to the sale of Cambridge's interest in AdValue.

(b) Includes a one-time, noncash benefit of $1.2 million ($0.08 per share) for the cumulative effect of a change in accounting for income taxes.

Interim Results

Revenue for the three months ending March 31, 1996 reached $39.6 million, a 46% increase over $27.2 million for the same period in 1995. Net income for the quarter increased 74% to $4.1 million, compared to $2.4 million for the same period a year ago.

Revenue Analysis by Product/Service

One hundred percent of Cambridge's 1995 revenue was derived from systems integration/professional services.

Market Financials

Cambridge markets its services to a range of industries. Clients primarily include organizations with large scale information processing and distribution needs that are using or migrating to open systems computing environments.

Geographic Markets

Approximately 78% of Cambridge's 1995 revenue was derived from North America and 22% from Europe. A three-year financial summary is shown on the following page.

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Cambridge Technology Partners, Inc.
Three-Year Geographic Financial Summary
($ Millions)

	Fiscal Year					
	1995		1994		1993	
Geographic Market	$	Percent of Total	$	Percent of Total	$	Percent of Total
Revenue						
- North America	$103.8	78%	$71.7	86%	$49.8	100%
- Europe	28.6	22%	11.8	14%	0.2	–%
	$132.4	100%	$83.5	100%	$50.0	100%
Income (loss) from operations						
- North America	$17.6	91%	$11.7	100%	$6.6	108%
- Europe	1.7	9%	0.1	–%	(0.5)	(8%)
	$19.3	100%	$11.8	100%	$6.1	100%

Acquisitions

In October 1995, Cambridge acquired Axiom Management Consulting, Inc. of San Francisco (CA) for approximately 336,000 shares of Cambridge common stock. The acquisition was accounted for as a pooling of interests.

- Axiom, formed in 1988, is a management consulting firm that specializes in business process renewal services primarily for Fortune 1000 companies. Business Renewal™ is Axiom's proprietary methodology for implementing strategy-driven business change.
- At the time of the acquisition, Axiom had approximately 100 employees at its offices in San Francisco, Atlanta, Chicago, Dallas, Los Angeles, and New York.
- The acquisition enhances Cambridge's business process consulting services by providing critical mass in the management consulting area.
- Axiom now operates as a wholly owned subsidiary of Cambridge.

In August 1995, Cambridge acquired The Systems Consulting Group, Inc. (SCG) for approximately 758,000 shares of Cambridge common stock. The acquisition was accounted for as a pooling of interests.

- SCG, founded in 1988 and based in Miami (FL), focuses on the evaluation and implementation of software packages for financial reporting and consolidation, human resources/payroll, remote work force automation, manufacturing, and retail distribution. SCG also specializes in emerging technologies and techniques, such as imaging, cooperative processing, and wireless communications.
- SCG, with 1994 revenue of $12.2 million, had approximately 200 employees at the time of the acquisition and offices in Miami and Chicago.

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- SCG's client base included companies such as Office Depot, Ryder Systems, Blockbuster Entertainment, W.R. Grace, and NYNEX.

- The acquisition integrates SCG's packaged software evaluation and implementation practice with Cambridge's rapid application development and deployment of client/server applications. SCG also strengthens Cambridge's presence in the Southeast and Midwest markets in the U.S. and provides the company with a competitive advantage as it expands into Latin America.

- Effective January 1, 1996, the operations of SCG were merged into Cambridge.

In February 1994, Cambridge acquired IOS Group AB of Sweden for 425,000 shares of Cambridge common stock (valued on the date of the acquisition at $4.2 million) and $1,000 in cash. The acquisition was accounted for as a purchase.

- IOS Group provides open systems IT consulting and software development services in an enterprise-wide, client/server environment.

- IOS Group had 61 employees at the time of the acquisition and annual revenue of approximately $6 million.

- Subsequent to the acquisition, IOS Group was renamed Cambridge Scandinavia.

Divestitures

In May 1995, Cambridge sold its interest in AdValue Media Technologies, Inc. for $909,000. Cambridge had a 6.3% investment interest in AdValue, which was formed in 1991 to develop, test, and market a centralized spot advertising computer software package.

Employees

As of December 31, 1995, Cambridge had 1,062 employees, up from 518 employees as of the end of 1994.

As of January 31, 1996, Cambridge had a total staff of 1,077 employees, including 783 employees in North America and 294 employees in Europe.

Employees are segmented as follows:

Marketing and sales	57
Application developers and systems consultants	672
Project managers	152
Client managers	62
Vice presidents	37
Senior executives	8
Administrative staff	89
	1,077

The company currently has approximately 1,300 employees.

Key Products and Services

Cambridge provides information technology consulting and software development services and evaluation services designed to achieve a competitive advantage, enhance the efficiency and functionality of specific business processes, and support financial goals.

- To achieve these objectives, Cambridge uses its rapid development methodology to take a client through design, development, and roll-out of a significant strategic business application in approximately nine months, a timeframe Cambridge believes to be significantly shorter than those of its competitors.

- Cambridge's custom software design and development activities have accounted for most of the company's revenues. These fees typically range from $750,000 to $2.5

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million, depending on the type of application and the anticipated complexity of the development process.

Consulting

Cambridge provides consulting services to address information technology issues occurring at three organizational levels—the enterprise-wide level, the specific business process level, and the application level.

- With respect to each of these consulting services, Cambridge has developed a methodology for completing consulting projects rapidly.

- Clients can use consulting services in connection with either an initial or a follow-on assignment.

Rapid Business Renewal is a proprietary methodology developed by Axiom for evaluating strategic business change encompassing all dimensions of a client's operations, including processes, organizational structure, technology, and people.

- A client can begin work with Axiom at this stage to determine which of its business processes should be examined.

- A project starts by establishing a strategic context or road map for achieving desired performance levels within a selected business unit. Then Axiom assists clients to develop future operating models and prototypes in the innovation phase of the project. These models are then reviewed in light of real-world, physical boundaries and provide the basis for implementation of a renewed business process.

Scope is the second consulting option for clients. A scope is a one- or two-week process for identifying strategic applications most likely to maximize a client's return on IT investment, achieve a competitive advantage, enhance the efficiency and functionality of specific business processes, or support financial goals.

- Clients can prioritize the development process based on the results of scoping and may choose to develop their application incrementally in order to speed up their realization of competitive advantage and productivity and cost-reducing benefits.

- Cambridge also prepares a detailed plan describing the steps necessary to complete the development cycle.

Rapid Solutions Workshop (RSW)

RSW is a three-week process involving a team of Cambridge's project managers, analysts, and software developers, as well as a team of the client's executives, information system end users, and MIS professionals.

- The first two weeks of the process are spent in a cooperative effort with the client to identify the scope of the application, to design the features of a prototype, and to build a business case supporting the application.

- During the final week of the process, the teams participate in an intensive workshop process held at one of Cambridge's facilities (Cambridge, Chicago, Lansing, Los Angeles, New York, San Francisco, the U.K., the Netherlands, or Sweden). Together, the client and Cambridge teams develop a functional prototype of the chosen strategic application, define required functionality based on the jointly created business case, and resolve key business and technical implementation issues.

- The RSW concludes with a presentation of the application prototype by the client team

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to the client's executives. The inclusive nature of the RSW, coupled with the technical proof of the application concept offered by a prototype demonstration, builds consensus for the chosen application and adds momentum to the process.

- The RSW process can also be used by clients to build consensus for the implementation of a redesigned business process or a third-party software package.

Design

Application design includes a functional and technical blueprint of the software application to be developed.

To implement application design, Cambridge personnel identify all potential business processes and their related functions, prioritize these processes, identify end-user requirements, and detail the application architecture.

This process is typically accomplished in six to eight weeks, a timeframe Cambridge believes is significantly shorter than for comparable services provided by its competitors.

At the end of this period, Cambridge delivers a fixed-price, fixed-timetable plan for developing and implementing the application.

Development

Development services include development of the custom software necessary to operate the application, systems integration—including integration of the application into the existing information processing architecture and the coordination of hardware requirements and network configuration—and testing and implementation of the application.

Cambridge's approach to the implementation of client/server architecture is based on a three-tiered architecture that positions an open systems hardware platform (typically a UNIX-based computer) as a processing link between the user interface or "client" and the host system or "server" to be accessed.

Cambridge also uses open standards-based software tools and reusable objects that can help shorten the application development cycle.

Cambridge divides the development process into sub-projects, such as user interface, functionality, and data modules, each of which is typically implemented in parallel by distinct teams.

Cambridge continues to develop a library of object-oriented software components that are reused in software application development in order to further improve the efficiency and quality of the application development process.

Roll-Out

Upon completion of the software development process, Cambridge assists its clients in the roll-out of the application into the workplace and its assimilation into the production environment. Cambridge also assists its clients in managing the organizational changes that accompany roll-out of the application.

Support

Cambridge offers various optional services to support the developed software application, including application and tools support, technical consulting, project management support, and systems training for client personnel.

- These services can be contracted for individually or as part of a package with development and roll-out services.

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- Support services are available for periods ranging from three months to one year. Cambridge charges a support fee based on a *per-diem* rate.

Empowerment

The goal of these services is to enhance client independence through training in the technologies and methods used to develop and maintain open systems applications. These services range from formal training in the skill-sets required to develop additional software applications to administer and support the developed software and use the applicable software tools, to informal hands-on experience and direct interaction with Cambridge personnel throughout the application development process.

Network Services

Cambridge's Network Services Group provides computer network analysis, design, deployment, and support services either in connection with application development projects or as independent engagements.

- Analysis services are designed to help clients gain a detailed understanding of their current network environment and include reviewing the architecture and security of the current network and analyzing the costs and risks associated with the current network.
- Design services assist clients in defining a network infrastructure capable of supporting strategic business goals and developing plans to build and manage this network.
- Cambridge also assists clients with deploying and managing the network.

Software Package Evaluation and Implementation

Cambridge performs a process for packaged software projects similar to the one it uses for custom software projects, leading clients through consulting, rapid solution workshops to choose the correct software package, customization of the software package, and then implementation.

Although the software package services are currently contracted for on a time-and-materials basis, Cambridge is working to transfer new engagements to fixed time/fixed price models.

Projects/Clients

Cambridge designed and developed a Customer Service Workbench customer management system for ReliaStar Financial Corp. The system provides an integrated view of customer information found on 16 legacy systems, as well as contract history, standard customer proposal templates, automatic policy calculations, and a lead generation tool based on customer life events.

Cambridge worked with Blue Cross & Blue Shield of Rhode Island, to design, develop, and implement a "Blue Ribbon Customer Service System" that integrates membership, claims, and research information from separate databases and to develop a customer information network integrating marketing, underwriting, benefits analysis, and communications.

For Allied Signal Aerospace, Cambridge designed and developed the Electronic Storefront System—an inventory management system to support faster turnaround for locating and delivering parts to customers. The system links 10 legacy systems to Allied Signal to provide a common interface that permits Allied Signal and its

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clients to administer orders, schedule deliveries, track inventory, and prepare quotes.

Cambridge partnered with Ericsson Radio AB to create a "virtual organization" that transcends geographic locations. The system gives users in Sweden, China, Hong Kong, and Macao an integrated process for customer service and consistent operations across geographic boundaries.

Cambridge developed a customer service system for the PersonaLink Services division of AT&T that is designed to enable a customer service representative to retrieve relevant customer information prior to answering the call and to monitor usage to facilitate more efficient cross-selling and telemarketing to existing customers.

For J.P. Morgan & Co. Incorporated Cambridge supplemented J.P. Morgan's technical expertise and provided critical management skills and delivered several projects, including rapid solutions workshops, an Equities Listed Trader Workstation, and a business/technology strategy project.

Cambridge worked with Lockheed to develop a streamlined procurement system using an object-oriented development approach.

Cambridge has also developed and implemented strategic applications for Air Products and Chemicals, Ameritech, Bacardi Corporation, BellSouth Services, Blue Cross & Blue Shield of Hawaii, Charles Schwab & Co., Chrysler, Citibank, Dow Jones, DuPont de Nemours, Dutch Ministry of Economic Affairs, Federal National Mortgage Association (Fannie Mae), First Boston, Ford Motor Company, Fujitsu, General Mills, Hasbro, Hewlett-Packard, Hoechst Celanese, Hughes Space and Communications Company, Ingersoll-Rand, Inland Steel, Kaiser Permanente, Levi Strauss International, Lockheed, Los Angeles Cellular Telephone Co., Massachusetts Financial Services Co., McKesson, Michigan Department of Transportation, NationsBank, Nike, Northrop Grumman Commercial Aircraft Division, NYNEX, Options Clearing Corporation, Pacific Bell, Prudential, Putnam Investments, RJR Nabisco, Saab/Scania, Shell, Unilever, Union Fidelity Life, Union Pacific Resources Company, Vanguard Group, WearGuard, and Xerox, among others.

Other clients have included Blockbuster Entertainment, Delta Airlines, Federal Express, Microsoft, Philips, Pizza Hut Worldwide, Royal Caribbean Cruise Lines, Ryder, Sybase, Telia, and Visa.

Marketing and Sales

Cambridge markets its services in North America through a direct sales force of 19 employees operating out of its Cambridge headquarters and its regional offices, which provide clients with local contact and support.

Cambridge markets its services in Europe through a direct sales force of eight employees operating out of its offices in England, the Netherlands, and Sweden.

Cambridge also conducts cooperative marketing programs with certain hardware and software vendors, including Hewlett-Packard, Sun Microsystems, Oracle, Informix, Sybase, Aurum Software, The Vantive Corporation, and Clarify Inc.

Cambridge hosts, either independently or in conjunction with hardware and software vendors, a variety of marketing programs for MIS professionals that explain Cambridge's methodology for achieving competitive advantage through open systems and distributed computing.

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Existing clients are an important component of Cambridge's marketing strategy. Approximately 50% of business is generated by repeat engagements with clients. Follow-on projects leverage sales and marketing resources and strengthen the company's client relationships.

Another component of Cambridge's marketing strategy is to expand on the experience developed in certain areas such as customer management systems in order to gain additional experience and increase the likelihood of further client assignments.

Alliances

Cambridge has a range of alliances/agreements with various vendors, including FlexiInternational, Information Resources, Integral Systems, J.D. Edwards, Logic Works, Lotus, Microsoft, Netscape, Oracle, Powersoft, PVCS, Raptor Systems, SAP, SQL Financials, Sun Microsystems, Sybase, ViewStar, and XcellNet.

Competition

Cambridge's competitors include BSG Corporation, Andersen Consulting, Technology Solutions Corporation, SHL Systemhouse, Innovative Information Systems, CAP GEMINI AMERICA, Computer Sciences Corporation, EDS, Keane, Hewlett-Packard, IBM, Unisys, and Digital Equipment Corporation.

INPUT Assessment

Cambridge strengths include the following:

- Cambridge was one of the first companies to offer client/server rapid application development and often builds applications in six months. The company's approach to development appeals to large companies, especially for large or very large projects.
- The company has expanded its service offerings through its acquisitions of SCG and Axiom, while maintaining rapid growth.

Challenges include:

- Successfully expanding into additional international markets
- Selling additional services to Axiom clients
- Completing the integration of acquired businesses

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Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

June 1995

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Fax: (617) 374-8300



Status:	Public
Employees:	690 (6/95)
Revenue:	$59,679,000
Fiscal Year End:	12/31/94

Key Points

- Cambridge Technology Partners (CTP) provides systems integration and professional services to enterprises using or migrating to open systems environments using client/server architectures.
- As part of the company's strategy for international expansion, in February 1994 CTP acquired IOS Group AB, a Swedish-based provider of information technology and software development services for open systems solutions in client/server environments.
- During 1994, CTP established a separate Network Services Group to focus on network integration services.

Company Description

CTP is an international systems integration and professional services firm that provides software development and consulting services to organizations with large-scale information processing and distribution needs who are using or migrating to open systems computing environments and client/server technology.

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- Services are provided at the enterprise-wide, specific business process and application software levels of an organization.

- Upon the completion of consulting services, CTP designs, develops and implements one or more strategic software applications. These software applications are designed to achieve a competitive advantage, enhance the efficiency and functionality of specific business processes and support financial goals of the client.

- While the early stages of a client engagement may result in a relatively small amount of revenues, a client project that involves the design, development and implementation of a strategic software application generally results in fees ranging from $1 million to $3 million.

- CTP has performed its services to clients in a range of industries. Industrial companies and clients in the aerospace, insurance, financial services, telecommunications and consumer products industries as well as state and local governmental agencies have historically provided the greatest source of revenue.

CTP was formed in March 1991 under the common control of Safeguard Scientifics, Inc. Radnor Venture Partners and Cambridge Technology Group, Inc. (CTG) to continue to conduct the systems integration and software development business of CTG.

- In May 1993, CTP completed an initial public offering of 2.6 million shares of common stock, of which 800,000 shares were sold by the company and the balance by Safeguard Scientifics, Inc. Net proceeds to CTP from the sale were approximately $3.7 million.

- In April 1994, CTP completed a second public offering of 2.5 million shares of common stock, of which 500,000 shares were sold by the company and the remainder by certain stockholders. Net proceeds to the company of $6.9 million will be used for general corporate purposes, including working capital to support the expansion of its North America and international operations and to fund capital expenditures and possible acquisitions.

- CTP's current principal stockholder is Safeguard Scientifics, which owns 26.7% of CTP's shares.

Organization and Structure

CTP is headquartered in Cambridge (MA). Regional offices are in Atlanta (GA), Chicago (IL), Dallas (TX), Detroit and Lansing (MI), Palo Alto (CA) and the Los Angeles and New York metropolitan areas.

CTP Scandinavia (formerly IOS Group AB) provides services in Sweden, with offices in Linkoping, Stockholm and Malmo. Other European offices are in Amsterdam (The Netherlands), London (England), Frankfurt (Germany) and Oslo (Norway).

CTP's Network Services Group, established in 1994, provides network design, analysis and planning services to build the infrastructure clients need to support a distributing computing environment. In addition, The Management Lab was established during 1994 to provide clients with research and educational services.

Company Strategy

CTP's objective is to be the leading provider of enterprise-wide information technology (IT) solutions for organizations with large scale information processing and distribution needs

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that are using or migrating to open systems computing environments.

The company's strategy for achieving this goal includes the following elements:

- *Developing strong partnering relationships with clients*—CTP's interactive approach to problem solving and application software development involves consensus building among a client's executives, computer system end users and MIS professionals to strengthen client relationships. This approach also enables CTP to design, development and implement IT solutions that allow the client to achieve competitive advantage, enhance the efficiency and functionality of specific business processes and support financial goals. Whether developing an open enterprise plan for implementing an enterprise-wide migration to an open computing environment or developing single or multiple strategic software applications, CTP seeks to establish itself as the client's preferred source for strategic IT solutions.

 The company also extends its partnering relationships with clients beyond specific engagements by offering educational and training programs through its interactive management lab and CIO Forums and other information-sharing programs that provide clients with opportunities to exchange ideas with their peers, as well as learn about new information technologies and client/server trends.

- *Facilitating migration to flexible computing environments*—CTP's application development process enables clients to develop an open computing environment incrementally by implementing strategic software applications that can operate across existing hardware platforms and leverage existing information processing infrastructure. The company's approach to implementing IT solutions in most cases involves the introduction or further implementation of client/server architectures. The migration to open computing environments also provides opportunities to rebuild or redesign existing host-based software applications.

- *Structuring client projects at fixed prices and fixed-timetables*—CTP helps clients align desired IT solutions and technology investment by using rapid software development techniques to deliver IT solutions on a fixed-price and fixed-timetable basis. At the commencement of a project engagement, CTP and its clients agree on the nature of project deliverables, a fixed-price and a fixed-timetable for the project. CTP's goal is to keep individual application development projects under nine months in duration to increase the client's ability to use the IT solution to maximize competitive advantage.

 CTP is developing a library of object-oriented software components to be reused in software application development in order to further improve the efficiency and quality of the application development process.

- *Market expansion*—CTP believes that a strong domestic presence enhances competitiveness. The company plans to continue to expand domestically through the establishment of additional regional sales offices and operations facilities in major North American cities.

 To capitalize on market opportunities in Europe, CTP established sales and operation facilities in England and the Netherlands in 1993 and acquired IOS Group AB of Sweden (now CTP Scandinavia) in early 1994. CTP also plans

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to continue to increase its international presence by establishing sales offices and joint ventures, primarily in Europe.

Financials

CTP's 1994 revenue reached $59.7 million, an 82% increase over 1993 revenue of $32.7 million.

- Net income reached $6.6 million, a 45% increase over 1993 net income of nearly $4.6 million. Results for 1993 include a $1.2 million cumulative benefit resulting from a change in the method of accounting for income taxes.
- A four-year financial summary is shown below.

Cambridge Technology Partners, Inc.
Four-Year Financial Summary
($ Millions, except per share data)

	Fiscal Year			
Item	1994	1993	1992	1991(a)
Revenue	$59.7	$32.7	$19.2	$10.6
• Percent change from previous year	82%	71%	81%	(35%)
Income (loss) before taxes	$11.2	$5.6	$2.3	$(0.1)
• Percent change from previous year	99%	150%	*	85%
Net income (loss)	$6.6	$4.6 (b)	$1.3	$(0.3)
• Percent change from previous year	45%	258%	478%	64%
Earnings (loss) per share	$0.46	$0.35 (b)	$0.11	$(0.04)
• Percent change from previous year	31%	218%	375%	N/A

** Percent change exceeds 1,000%*

(a) Includes the results of the systems integration/software development business of CTP's predecessor company (CTG).

(b) Includes a one-time, noncash benefit of $1.2 million ($0.09 per share) for the cumulative effect of a change in accounting for income taxes.

CTP management attributes 1994 revenue increases to an increase in the volume of services delivered to new clients, as well as leveraging the client base by undertaking additional projects for existing clients.

- European operations also contributed to the growth in revenues, accounting for 20% of total revenues in 1994, up from less than 1% in 1993. This increase is primarily due to strong growth in the Netherlands and U.K. markets and the inclusion of the results of CTP Scandinavia (previously IOS Group AB), which was acquired by CTP in February 1994.
- Total company average revenue per client decreased to $398,000 in 1994 from $564,000 in 1993 due primarily to smaller average revenue per client in Europe. The operations in Europe are still in their early stages and many of CTP's software

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development contracts are smaller engagements compared to client contracts in North America.

The commencement of a particular stage of the software development process by a client does not necessarily result in the commencement of any other stage of the process or the creation of a software application. Therefore, the number of clients is not necessarily a reliable measure of revenues.

- In 1994, 29% of revenues were derived from CTP's four largest clients, while 46% and 32% of revenues were derived from CTP's four largest clients in 1993 and 1992, respectively.

- The decrease in revenue concentration for 1994 reflects CTP's client base growth in both North America and Europe. In 1994, CTP's 20 largest clients accounted for approximately 75% of revenues, compared to 94% and 90% in 1993 and 1992, respectively.

Interim Results

Revenue for the three months ending March 31, 1995 reached $20.6 million, an 80% increase over $11.5 million for the same period in 1994. Net income reached $2.5 million, compared to net income of more than $1.3 million for the same period a year ago.

- North American revenue per client rose to $360,000 in 1995 from $272,000 in 1994.

- European operations accounted for $4.7 million (23%) of revenues, up from $1.8 million (15%) of revenues for the same period a year ago.

Revenue Analysis by Product/Service

One hundred percent of CTP's 1994 revenue was derived from systems integration/professional services.

Market Financials

CTP markets its services to a range of industries. Industrial companies and clients in the telecommunications, insurance and financial services industries have provided sources of business opportunities for CTP.

Insurance—CTP's specific market focus is life, property and casualty insurance and Blue Cross & Blue Shield plans.

Industrial—Clients include a diverse group of manufacturing companies which share large scale information processing needs and desire for business applications that reduce costs and enhance productivity and customer service.

Financial Services—Clients include brokerage and investment firms.

Telecommunications—CTP targets telephone, radio and cellular companies.

Geographic Markets

Approximately 80% of CTP's 1994 revenue was derived from North America and 20% from Europe. A three-year financial summary is shown below.

Average revenue per client in Europe ranges from $100,000 to $300,000. Average revenue per client in North America increased to $676,000 in 1994, compared to $624,000 a year ago.

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Cambridge Technology Partners, Inc.
Three-Year Geographic Financial Summary
($ Millions)

	Fiscal Year					
	1994		1993		1992	
Geographic Market	$	Percent of Total	$	Percent of Total	$	Percent of Total
Revenue						
- North America	$47.9	80%	$32.5	99%	$19.2	100%
- Europe	11.8	20%	0.2	1%	---	---
	$59.7	100%	$32.7	100%	$19.2	100%
Income (loss) from operations						
- North America	$10.8	99%	$6.1	109%	$2.7	100%
- Europe	0.1	1%	(0.5)	(9%)	---	---
	$10.9	100%	$5.6	100%	$2.7	100%

Acquisitions

In February 1994, CTP acquired IOS Group AB of Sweden for 425,000 shares of CTP common stock (valued on the date of the acquisition at $4.2 million and $1,000 in cash. The acquisition was accounted for as a purchase.

- IOS Group provides open systems IT consulting and software development services in an enterprise-wide, client/server environment.
- IOS Group had 61 employees at the time of the acquisition and annual revenue of approximately $6 million.
- Subsequent to the acquisition, IOS Group was renamed CTP Scandinavia.

Employees

As of January 31, 1995, CTP had a total staff of 546 employees, including 391 employees in North America and 155 employees in Europe.

Employees are segmented as follows:

Marketing and sales	37
Application developers and systems consultants	373
Project managers	48
Client managers	23
Vice presidents	24
Senior executives	5
Administrative staff	36
	546

The company currently has 690 employees.

Key Products and Services

CTP provides information technology consulting and software development services designed to achieve a competitive advantage, enhance the efficiency and functionality of specific business processes and support financial goals.

- To achieve these objectives, CTP uses its rapid development methodology to take a client through design, development and roll-out of a significant strategic business application in approximately nine months, a

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time frame CTP believes to be significantly shorter than those of its competitors.

- CTP's custom software design and development activities have accounted for most of the company's revenues and market focus to date. However, the company's consulting services are expected to provide important leads to software development projects.

Consulting

CTP provides consulting services to address information technology issues occurring at three organizational levels—the enterprise level, the specific business process level and the application level.

- With respect to each of these consulting services, CTP has developed a methodology for completing consulting projects in a rapid time frame.

- Clients can use consulting services in connection with either an initial or follow-on assignment.

Enterprise-Wide Information Technology Planning services are designed to provide a strategy, or "Open Enterprise Plan" for implementing enterprise-wide migration to an open systems computing environment.

- CTP typically prepares an Open Enterprise Plan in four to eight weeks. CTP interacts with a client's executives and other key personnel to identify the goals of the enterprise and any factors critical to achieving these goals.

- After identifying goals and success factors, CTP assesses the performance of the existing IT and computing environment in supporting the business goals, the readiness of the client's MIS professionals to build and support an open systems environment and structural performance limitations inherent in the existing computing environment.

- Following this assessment, CTP defines strategies at three levels—application strategy, organizational strategy and technology strategy.

 - The application strategy identifies specific strategic software applications and prioritizes these applications based on the business goals of the enterprise. By prioritizing applications in this matter, CTP's clients can focus their resources on implementing the applications that they believe will deliver the largest return on investment.

 - The organizational strategy outlines methods for developing the skill-sets necessary to maintain an open systems environment and to manage potential resistance to change.

 - The technology strategy identifies the specific hardware, software, tools and other technologies necessary to develop and maintain the open system.

Business Process Redesign services involve the redesign of a particular business function identified by the client.

- The methodology for CTP's business process redesign services is based on an intense eight to twelve week consulting effort designed to develop improved business processes and achieve a client's business goals.

- The company's methodology combines enabling technologies, such as client/server architectures and graphical user interfaces, with the client's knowledge of its business, in order to improve business processes.

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- At the completion of the project, CTP provides a report comparing the proposed new business process with the current process, a business case to support the change and a plan for project implementation.

Software Development

CTP's software development process is divided into six general stages.

Scoping is a one or two week process for identifying strategic applications most likely to maximize a client's return on IT investment, achieve a competitive advantage, enhance the efficiency and functionality of specific business processes and support financial goals.

Rapid Solutions Workshop (RSW) refers to a three week process involving a team of CTP's project managers, analysts and software developers, as well as a team of the client's executives, information system end users and MIS professionals.

- The first two weeks of the process involves a cooperative effort with the client to identify the scope of the application, to design the features of a prototype and to build a business case supporting the application.

- During the final week of the process, the teams participate in an intensive workshop process held at one of CTP's facilities (Cambridge, Los Angeles, New York, Lansing, the U.K., the Netherlands or Sweden). Together, the client and CTP teams develop a functional prototype of the chosen strategic application, define required functionality based on the jointly created business case and resolve key business and technical implementation issues.

- The RSW concludes with a presentation of the application prototype by the client team to the client's executives. The inclusive nature of the RSW, coupled with the technical proof of the application concept offered by a prototype demonstration, builds consensus for the chosen application and adds momentum to the process.

- The RSW process can also be used by clients to build consensus for the implementation of a redesigned business process or a third-party software package.

Design—includes a functional and technical blueprint of the software application to be developed

The fees for CTP's services are typically fixed in advance of each stage of the software development process for which CTP has been engaged.

Development—These services include development of the custom software necessary to operate the application, systems integration, including integration of the application into existing information processing architecture and the coordination of hardware requirements and network configuration and testing and implementation of the application.

Roll-Out—Upon completion of the software development process, CTP assists its clients in the roll-out of the application into the workplace and its assimilation into the production environment. CTP also assists its clients in managing the organizational changes that accompany such rollout of the application.

Support—CTP offers various optional services to support the developed software application, including application enhancements, application maintenance, project management support, developer support, software tools

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support, systems management support and systems training for client personnel.

- These services can be contracted individually or a part of a package with development and roll-out services.

- Support services are available for periods ranging from three months to one year. CTP charges a support fee based on a per diem rate.

Empowerment

The goal of these services is to enhance client independence through training in the technologies and methods used to develop and maintain open systems applications. These services range from formal training in the skill-sets required to develop additional software applications to administer and support the developed software and use the applicable software tools, to informal hands-on experience and direct interaction with CTP personnel throughout the application development process.

Network Services

CTP's Network Services Group provides computer network analysis, design, deployment and support services either in connection with application development projects or as independent engagements.

Projects/Clients

Insurance

CTP's market focus is life, property and casualty insurance and Blue Cross & Blue Shield plans.

CTP has been engaged to develop information systems which improve customer service and customer satisfaction through quicker and more complete access to customer information, and reduce the training time required for customer service representatives.

For ReliaStar Financial Corp. (formerly Northwestern National Life Insurance Company), CTP is developing a customer service workstation that provides an integrated view of client information.

CTP is working with Blue Cross & Blue Shield of Rhode Island to design, develop and implement a system that integrates membership, claims and research information from separate databases and to develop and customer information network integrating marketing, underwriting, benefits analysis and communications.

Other clients in the insurance industry include Blue Cross & Blue Shield of Hawaii.

Industrial

CTP has developed experience with respect to applications having broad appeal, such as inventory control and production and delivery scheduling systems.

For Air Products and Chemicals, CTP is developing two systems to support customer service (The Single Point of Contact System) and sales functions (Catalyst).

For Union Pacific Resources Company, CTP developed an application for collecting production data at the source on a real-time basis, which provides shared-access to such data between the corporate office and the production site and enhanced decision-making capabilities.

For the Northrop Grumman Commercial Aircraft Division, CTP provided an Open Enterprise Plan to streamline business processes and integrate information using a distributed environment.

CTP has also developed and implemented strategic applications for Hasbro, Lockheed Missiles and Space Company, Hughes Space

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and Communications Company, Hoechst Celanese, Ingersoll-Rand, Nike, Saab/Scania, Unilever, among others.

Financial Services

CTP designed and developed a broker workstation for J.P. Morgan & Co.

For Massachusetts Financial Services Co., CTP designed and developed a sales and marketing system.

For Charles Schwab & Co., CTP developed a financial decision support system to consolidate financial information.

CTP also designed and developed a system for securities traders at Putnam Investments that enables traders to trade more effectively and efficiently by allowing the traders to receive new orders directly from portfolio managers and to price these orders automatically using live market data.

For Federal National Mortgage Association (Fannie Mae), CTP provided a rapid consensus (assimilation) workshop for users to build IT client/server skills.

Telecommunications

CTP developed a customer service system for the PersonaLink Services division of AT&T that is designed to enable a customer service representative to retrieve relevant customer information prior to answering the call and to monitor usage to facilitate more efficient cross-selling and telemarketing to existing customers.

Other telecommunications clients include Pacific Bell, Ericsson Radio AB and Los Angeles Cellular Telephone Co.

Government

Clients have included the Michigan Department of Transportation's Office of Information Management, Florida Insurance and the Dutch Ministry of Economic Affairs.

Marketing and Sales

CTP markets its services in North America through a direct sales force of 15 employees operating out of its Cambridge headquarters and its regional offices, which provide clients with local contact and support.

CTP markets its services in Europe through a direct sales force of eight employees operating out of its offices in England, the Netherlands and Sweden.

CTP also conducts cooperative marketing programs with certain hardware and software vendors, including Hewlett-Packard, Sun Microsystems, Oracle and Microsoft.

CTP hosts, either independently or in conjunction with hardware and software vendors, a variety of marketing programs for MIS professionals that explain CTP's methodology for achieving competitive advantages through open systems and distributed computing.

Existing clients are an important component of CTP's marketing strategy. Follow-on projects leverage sales and marketing resources and strengthen the company's client relationships.

Another component of CTP's marketing strategy is to expand on the experience developed in certain industries, such as financial services, insurance and telecommunications, in order to gain additional experience and increase the likelihood of further client assignments in these industries.

Alliances

CTP has a range of alliances/agreements with various vendors including Hewlett-Packard,

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Sun Microsystems, Microsoft, Oracle and Sybase.

Competition

CTP's competitors include BSG Corporation, Andersen Consulting, Technology Solutions Corporation, SHL Systemhouse, Innovative Information Systems, CAP GEMINI AMERICA, Computer Sciences Corporation, EDS, Keane, Hewlett-Packard, Unisys and DEC.

INPUT Assessment

CTP was one of the first companies to offer client/server rapid application development and often builds applications in six months. The company's approach to development appeals to large companies, especially for large or very large projects.

A challenge for CTP is to expand its client engagements outside its traditional markets while managing the company's rapid growth.

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FINANCIAL UPDATE TO HIGHLIGHT DATED OCTOBER 1982

CANADA SYSTEMS GROUP LIMITED
2599 Speakman Drive
Mississauga, Ontario, Canada L5K 1B1
(416) 822-5200

John F. Ricketts, President
Private Corporation
Total Employees: 1,425
Total Revenue, Fiscal Year End
12/31/83: $140,065,000 (Canadian)
$112,052,000 (U.S.)

CANADA SYSTEMS GROUP
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, Canadian)

FISCAL YEAR / ITEM	1983	1982	1981	1980	1979
Revenue	$140,065	$120,628	$101,547	$77,885	$52,823
. Percent increase from previous year	16%	19%	30%	47%	84%
Income before taxes and extraordinary item	$ 4,142	$ (4,826)	$ 3,620	$ 4,448	$ 2,384 (a)
. Percent increase (decrease) from previous year	186%	(233%)	(19%)	87%	45%
Net income	$ 1,038	$ (6,915)	$ 753	$ 2,269	$ 1,355 (a)
. Percent increase (decrease) from previous year	115%	(1,018%)	(67%)	67%	36%

(a) Restated due to changes in accounting procedures.

- Profit declines in 1981 were attributed to losses incurred in CSG's U.S. operations. Profit declines in 1982 were attributed to the impact of the recession and continued losses from U.S. operations. The turnaround in 1983 was attributed to corrective action taken with several problem businesses, reorganization along industry lines, and strategic planning focused on increasing the percentage of revenues from value-added services.

SOURCE OF REVENUE

- INPUT estimates that 85% of CSG's 1983 noncaptive revenue was derived from processing services, 10% from professional services and 5% from turnkey systems sales.

- Approximately 18% of CSG's total revenue is captive.

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CANADA SYSTEMS GROUP LIMITED
2599 Speakman Drive
Mississauga, Ontario, Canada L5K 1B1
(416) 822-5200

William B. Boggs, Chairman
John F. Ricketts, President
Private Corporation
Total Employees: 1,400
Total Revenue, Fiscal Year End 12/31/81: $101,547,000 (Canadian), $84,566,000 (U.S.)
Noncaptive Computer Services Revenue: $85,977,000 (Canadian) $71,594,900 (U.S.)

THE COMPANY

- Canada Systems Group Limited (CSG), incorporated in 1971 in Ontario, is the largest computer services company in Canada. CSG provides clients in Canada and the U.S. with batch, remote batch, and interactive processing services, computer output microfilm (COM) services, turnkey systems, software, and professional services.

- CSG's 1981 revenue of $101.5 million represented a 30% increase over 1980's $77.9 million. Net income was $753,000, a 67% decrease from 1980 levels. Following is a five-year financial summary:

CANADA SYSTEMS GROUP
FIVE-YEAR FINANCIAL SUMMARY
($ thousands, Canadian)

ITEM \ FISCAL YEAR	1981	1980	1979	1978	1977
Revenue	$ 101,547	$ 77,885	$ 52,823	$ 28,761	$ 27,254
. Percent increase from previous year	30%	45%	84%	6%	14%
Income before taxes and extraordinary item	$ 3,620	$ 4,448	$ 2,384(a)	$ 1,643(a)	$ 1,833(a)
. Percent increase (decrease) from previous year	(19%)	87%	45%	(10%)	N/A
Net income	$ 753	$ 2,269	$ 1,355(a)	$ 1,000(a)	$ 1,185(a)
. Percent increase (decrease) from previous year	(67%)	67%	36%	(16%)	N/A

(a) Restated due to changes in accounting procedures.

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- Profit declines in 1981 were attributed to losses incurred in CSG's U.S. operations.

- Revenue for the first half of 1982 was $64 million and includes Computel's revenue from May and June. Management anticipates total revenue for 1982 will exceed $140 million.

- In May 1982 CSG acquired its largest competitor in Canada, Computel Systems Ltd., from the Royal Trust Company for $8.1 million. Under the terms of the agreement, Royal Trust also acquired a 25% interest in CSG. CSG is now owned equally by the T. Eaton Company of Canada, Ltd., The Steel Company of Canada Ltd., Gulf Canada Ltd., and Royal Trust.

 - As of May 1982, Computel had approximately 600 employees. Revenue at the end of 1981 was $41.3 million.

 - Computel provided processing services to the Canadian government as well as specialized services to the banking and insurance markets. Its services have been transferred to two CSG divisions: Banking and Insurance and the Federal Systems Division.

- In March 1981 CSG acquired all the shares of Datapharm Systems Limited of Rexdale, Ontario. DataPharm, which provides pharmaceutical prescription-filling and record-keeping processing services, now operates as a separate CSG division. CSG's 1981 results include nine months of revenue from Datapharm.

- Cogito Corporation, a separate CSG subsidiary, was sold to Petroleum Data Corporation in April 1982. The corporation, which operated as the Cogito Division within the Industry Services Group, provides student scheduling and reporting services to schools and school boards in Canada, the Eastern U.S., and California.

- CSG organized its business into two major groups effective September 1982: Industry Services and Processing Services. These groups are further specialized by division.

 - The Industry Services Group provides specialized remote computing services through five divisions.

 . The Multiple Access Division, through its processing center in Don Mills, Ontario, provides value-added processing services to over 900 high-technology, scientific, and engineering clients. Services include financial planning, management sciences, project management, data base services, and engineering graphics services.

 . The Multiple Financial Services Division offers unique, value-added processing and administrative services to the banking, brokerage, and investment communities. The division has over 350 clients in Canada and the U.S.

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 - . The Distribution Systems Division (formerly Keydata Canada Division) provides Keydata's business accounting systems to manufacturers, importers, and distributors on a timesharing basis. CSG is the exclusive distributor for Keydata Corporation's systems in Ontario and Quebec. Offices are located in Toronto and Montreal.

 - . The Banking and Insurance Division, formed as a result of the Computel acquisition, provides value-added processing services to the banking and insurance industries.

 - . The Business Information Systems Division offers professional services.

- The Processing Services Group provides interactive, remote batch, COM processing, and facilities management services to clients in Canada and the U.S. from processing centers located in Toronto, Calgary, Ottawa, and Los Angeles.

 - . The Commercial Marketing Division offers these services to all Canadian commercial clients through Eastern, Western, and Central Sales Regions.

 - . The Federal Systems Division offers processing services to the Canadian and U.S. federal governments. As a result of the Computel acquisition, this division also offers facilities management services to the Canadian government through a separate computer center in Ottawa.

 - . The CSG Corporation (formerly Multiple Access Division Los Angeles), provides interactive, batch, and remote batch processing services to approximately 50 clients from a data center in Los Angeles.

- Three other divisions report to Marketing and Corporate Development:

 - The Advanced Technology Division specializes in high-technology minicomputer applications such as air traffic control systems, taxi-based dispatch systems, automated telex exchange, and graphics systems. Custom turnkey systems for automated materials handling and process control are also developed.

 - The Minicomputer Business Systems Division supplies turnkey systems to selected industries.

 - The Datapharm Systems Division provides a record-keeping pharmaceutical prescription-filling and processing service. The system automatically produces the label, receipt, patient profile, and medication history, in addition to tracking daily drug usage and maintaining the latest pricing information.

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- As of December 31, 1981 CSG had approximately 1,400 employees. In September 1982 the company had 1,894 employees divided as follows:

Industry Services Group	821
Processing Services Group	792
Finance and Administration Division	123
Marketing and Corporate Development Division	138
Personnel	20
	1,894

- Major competitors include Computer Sciences of Canada, Datacrown, Inc., IBM Canada (Data Center Services), Industrial Life Technical Services, Systemhouse Ltd., Automatic Data Processing (Brokerage Services Division), and Control Data Corporation.

KEY PRODUCTS AND SERVICES

- INPUT estimates that 80% of CSG's noncaptive revenue was derived from processing services, 15% from professional services, and 5% from turnkey systems. Approximately 15% of CSG's total revenue is captive.

- A breakdown of revenue provided by CSG's major business areas follows:

CANADA SYSTEMS GROUP LTD.
1981 Revenue Sources
($ Canadian)

	Revenue ($millions)	Percent of Total	Noncaptive Revenue ($ millions)	Percent of Total
Industry Services	$ 31.3	31%	$ 31.3	36%
Processing Services	50.4	50	35.0	41
Professional Services	19.8	19	19.7	23
Total	$ 101.5	100%	$ 86.0	100%

- CSG offers interactive, remote batch, batch, and COM processing services.
 - General business, scientific and engineering, utility, and industry specialty applications are available.

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- A profile of applications offered from CSG's Processing Services Group (Mississauga, Calgary, and Los Angeles processing centers) and the Multiple Access Division (Don Mills processing center) is presented in Exhibit A.

- Applications offered from the Ottawa processing center are presented in Exhibit B. This center was acquired by CSG as part of the Computel acquisition in May 1982.

- In addition to general processing services, CSG has several facilities management contracts with Canadian organizations. Notable among these are:

 - A contract with the Canadian Employment and Immigration Commission to maintain the National Job Bank (NJB).

 . Initiated in late 1980 and designed by CSG, NJB is a data base of difficult-to-fill job positions across Canada and currently has an inventory of over 5,000 active jobs.

 . The on-line system is accessed through terminals in the NJB Control Centre in Hull, Quebec.

 . Counselors in over 400 employment centers in Canada telephone the control center directly to request job information related to their clients. Between 400 and 600 searches are conducted daily.

 - In mid-1981 CSG signed a five-year agreement valued at more than $4.5 million with Consumer and Corporate Affairs Canada to provide processing of the Newly Automated Name Search (NUANS).

 . NUANS searches proposed corporate names and trademarks, checking them for duplication against two million names already on record in Canada.

 - In May CSG signed a five-year contract valued at over $2 million with Atlas Copco Canada, Inc. to provide maintenance and development of Atlas Copco's fully-integrated on-line order entry and inventory control system known as KICK. KICK will be accessed via 45 terminals linked with CSG's processing center in Mississauga.

- CSG is participating in a one-year technical field trial of iNet, a new communications and data base service.

 - Developed by the Computer Communications Group of the Trans Canada Telephone System, iNet is a national intelligent communications network which can be entered from any city in Canada and can be linked to United States and other international packet-switched networks.

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EXHIBIT A

CANADA SYSTEMS GROUP

NETWORK APPLICATION PROFILE

PROCESSING SERVICES GROUP

- OPERATING ENVIRONMENT
 - IBM 303X; 308X, MVS
 - AMDAHL V/5, V18, MVS
 - NAS AS/5, AS/5000, MVS
 - TSO, CSG/WYLBUR, CICS/VS, JES 2
- PROGRAMMING LANGUAGES SUPPORTED
 - ASSEMBLER
 - BASIC
 - COBOL
 - APL
 - FORTRAN
 - OS RPG II
 - PL/1
- DATA MANAGEMENT SOFTWARE
 - DATAMAN
 - DATAMANAGER
 - EASYTRIEVE
 - IDMS
 - SIR
 - IMS/VS
 - MARK IV
 - SYSTEM 2000
 - STAIRS
- FINANCIAL APPLICATIONS/TOOLS
 - MSA AP, AR, GL, PAYROLL, PERSONNEL, SUPPLIES INVENTORY CONTROL
 - INCOME TAX
- PROJECT MANAGEMENT
 - ICES - PROJECT 1
 - PROJACS
- ECONOMETRICS AND STATISTICS
 - MOSAIC
 - S/360 SSP
 - WATLIB
 - MPSX
 - DATABANK/MASSAGER
 - CROSS TABS
 - X 11
 - SPSS
 - BMDP
 - SAS
 - SAS-GRAPH
 - TPL
- PROGRAM DEVELOPMENT
 - WATBOL
 - WATFIV
 - LIBRARIAN
 - ENSURE
 - PAN VALET
- OTHER KEY PRODUCTS
 - COMPUTER OUTPUT MICROFILM
 - DES (DISTRIBUTED EDITING SERVICE)

MULTIPLE ACCESS DIVISION

- OPERATING ENVIRONMENT
 - CEC CYBER 170, 720, NOS 1.4
- DATA MANAGEMENT SOFTWARE
 - SYSTEM 2000
 - TCL
 - DRS
 - TXED
 - KWIC
 - SIR
 - SEED
 - XEDIT
- MANAGEMENT SCIENCE
 - ACSL
 - BMD
 - BMDP
 - GPSS V
 - IMSLIB
 - OPHELIE
 - PMCS
 - PROPLAN
 - SIBYL/RUNNER
 - STATPAK
 - SIMSCRIPT 11.5
 - SPSS
- FINANCIAL APPLICATIONS/TOOLS
 - AMS FORECASTING
 - FINMOD
 - FIPAC
 - MPS-F
 - REALFINE
 - SIMPLAN
- VARIOUS APPLICATIONS AVAILABLE IN:
 - ELECTRICAL/ELECTRONIC ENGINEERING
 - CIVIL ENGINEERING
 - STRUCTURAL ENGINEERING
 - GENERAL FINITE ELEMENTS
 - MECHANICAL ENGINEERING
 - PETROCHEMICAL ENGINEERING
- OTHER KEY PRODUCTS
 - APLUM
 - CALCOMP
 - FTNXLIB
 - IPF PLOTTING
 - PLOT 10
 - SIMPLOT
 - SCAN99
 - SURGE

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EXHIBIT B

OTTOWA PROCESSING CENTER, PROCESSING SERVICES GROUP

NETWORK APPLICATION PROFILE

APPLICATION AREA/PRODUCT NAME	APPLICATION AREA/PRODUCT NAME
• OPERATING ENVIRONMENT – IBM 370/158, 3033, 4341, MVS, VM, JES2, TLMS, VSAM, TSO – HEWLETT-PACKARD HP3000, KSAM, MPE, SESSION MODE, VIEW/3000 – NAS AS/5, MVS – UNIVAC 1100/81A, OS/1100, PCIOS, STAT, CTS, DEMAND, SSG • PROGRAMMING LANGUAGES SUPPORTED* – ASSEMBLER (I, U) – COBOL (I, U, H,) – FORTRAN (I, U, H) – PL/1 (I, U) – RPG (I, U, H) – WATFIV (I) – APL (U) – BASIC (U, H,) – LISP (U) – MASM (U) – NUALGOL (U) – SNOBOL (U) – SPL (H) • FILE/DATA MANAGEMENT – CICS (I) – IMS (I) – SYSTEM 2000 (I, U) – IMAGE/3000 (H) – DATAMANAGER (I) – EASYTRIEVE (I) – ICEMAN/SORT (I) – MARK IV (I) – QUIK JOB III (I) – FURPUR (U) – SORT (U) – SORT/MERGE (H) – QUERY (H) • DATA BASES AVAILABLE – CITS (I, U) (CANADIAN INFORMATION TIME SERIES)	• ECONOMETRICS – DATABANK (I, U) – MASSAGER (I, U) – MOSAIC (I, U) – MATOP (U) • ENGINEERING – ICES (U) • GRAPHICS/PLOTTING – SYMAP (U) – TEKTRONIX (I, U, H) – HP GRAPHICS (H) • PROJECT MANAGEMENT – CARMIS (I) – EMSCO (I) (CONSTRUCTION) – PROSE (I) (CONSTRUCTION) – OPTIMA 1100 (U) – PERT (U) – PERTCPM (H) • SIMULATION – GASP II, 1100 (U) – LP 1100 (U) – SIMSCRIPT (U) – SIMULA (U) • TEXT MANAGEMENT – FORMAT (I) – SCRIPT (I) – DOC (U) – ED (U) – EDITOR (H) • MATHEMATICS/STATISTICS – SAS (I) – SPSS (I) – TPL/PCL (I) – FMPS (U) – MATH/STAT-PACK (U) – IMSL (H) • OTHER – AUTOKAN (U) (SHIPBUILDING)

* I = IBM Equipment
U = Univac Equipment
H = Hewlett-Packard Equipment

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- Databases supplied through CSG during the field trial will include: DUNSKEY, Dun & Bradstreet's Canadian Database Service; SAIS, a demographic database; an electronic magazine; a financial newsletter; and financial information.

- CSG will also provide videotex support services and conversion of standard files to Telidon pages.

- In January 1982 CSG was appointed the exclusive Canadian distributor for Applicon's Computer-Aided Design (CAD) systems.

 - CSG has established an Engineering Graphics Service using Applicon systems and offers users full-color, three-dimensional modeling and graphics through a multiple workstation environment.

 - The CAD service is available in batch or remote batch or as a distributed processing service using an Engineering Graphics System installed at a client's location which interfaces with the CDC computer in Don Mills.

 - CAD products are marketed through the Multiple Access Division of the Industry Services Group.

- Professional services provided include data processing consulting, project management, technical support and training, systems design, programming, implementation, and production support.

 - Services encompass complex on-line systems, data base management, distributed processing, high-technology applications, engineering scientific data acquisition, and other specialized applications.

 - Custom turnkey systems for automated materials handling and process control are also developed.

- Turnkey systems sold by CSG are provided to selected industries including manufacturing, property management, publishing, and distribution. These systems use DEC and MICOS minicomputers.

INDUSTRY MARKETS

- CSG has clients in all industry sectors with concentrations in banking and finance, manufacturing, and government.

GEOGRAPHIC MARKETS

- In 1981 approximately 95% of CSG's noncaptive computer services revenue was derived from Canada, while the remaining 5% came from the U.S.

- Canada Systems Group has 26 Canadian, two U.S., and one United Kingdom location.

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- Canadian branch offices are in Calgary and Edmonton, Alberta; Vancouver, British Columbia; Winnipeg, Manitoba; Halifax, Nova Scotia; Don Mills, Mississauga, Oakville, Ottawa, and Toronto, Ontario; and Montreal, Quebec.

- U.S. branch offices are in Los Angeles and Washington, D.C.

- The United Kingdom office is in Croydon, England (Lonsdale Systems, Limited).

COMPUTER HARDWARE AND SOFTWARE

- CSG maintains the following equipment in its five processing centers:

 - Mississauga, Ontario (Central Processing Center):

 . 2 IBM 3081Ds, MVS.
 . 2 IBM 3033Us, MVS.
 . 2 Amdahl V/8s, MVS.

 - Don Mills, Ontario (Don Mills Processing Center):

 . 1 CDC Cyber 720-2, NOS 1.4.
 . 1 CDC Cyber 170-835, NOS 1.4.

 - Calgary, Alberta (Western Processing Center):

 . 1 Amdahl V/5 11, MVS.

 - Ottawa, Ontario (Ottawa Processing Center):

 . 1 IBM 3033N, MVS.
 . 1 IBM 370/158, MVS.
 . 2 IBM 4341s, VM.
 . 1 IBM 4341, MVS.
 . 1 NAS AS/5, MVS.
 . 1 UNIVAC 1100/81A, OS/1100.
 . 9 HP 3000s, MPE.

 - Los Angeles, California (Southwestern Processing Center):

 . 1 NAS AS/5-3, MVS.
 . 1 NAS AS/5000,MVS.

- CSG's National Communications Network serves an estimated 66 cities in Canada.

 - Remote computing is offered via dial-up, dedicated, and leased lines through Datapac, Telenet, and Tymnet services.

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- CSG's Teleprocessing Control Center interfaces with the network and monitors all communications on a 24-hour basis.

 . Teleprocessing software includes CICS, TSO, and WYLBUR.

- In conjunction with Bell Canada, CSG began the first full-scale field trial of fiber optics technology using commercial high-speed digital data. In March 1981 CSG's Mississauga processing center was linked to the local DATA ROUTE switching office.

- In October 1981 CSG announced the availability of virtual memory operating systems (VM/370) from its central processing center in Mississauga. Based on the IBM 4300, the new VM service is separate from CSG's MVS offerings.

- In January 1982 CSG announced LASERPRINT, an extension of its Output Services, which provides on-line laser printing and COM services.

 - LASERPRINT provides high-quality printing at 120 pages per minute and offers a range of electronic forms designs and type sizes, allowing for the imprinting of company logos and signatures.

 - The service operates 24 hours a day, seven days a week.

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COMPANY HIGHLIGHT

CANADA SYSTEMS GROUP LIMITED
2599 Speakman Drive
Mississauga, Ontario, Canada L5K 1B1
(416) 822-5200

William B. Boggs, President And
Chief Executive Officer
Private Corporation
Total Employees: 1,169
Total Revenues, Fiscal Year End
12/31/79: $52,823,387
Non-Captive Computer Service
Revenues: $38,823,387*

THE COMPANY

- Canada Systems Group Limited (CSG) was incorporated in 1971 in Ontario, Canada. Now one of Canada's leading computer services organizations, CSG provides clients in U.S and Canadian industry and government with batch, remote batch and interactive computing services, computer output microfilm services, turnkey systems and a broad range of professional services.

- The T. Eaton Company of Canada Ltd., The Steel Company of Canada Ltd. and Gulf Canada Ltd. presently own equal one-third shares of Canada Systems Group.

- In May 1979, CSG completed the acquisition of Multiple Access Computer Group, a Canadian services company with annualized revenues of about $25 million. The acquisition almost doubled CSG's revenues for 1979. The following financial summary includes seven months of revenues from Multiple Access for 1979:

* INPUT estimate

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CANADA SYSTEMS GROUP
FIVE-YEAR FINANCIAL SUMMARY
($ Thousands, Canadian)

FISCAL YEAR / ITEM	1979	1978	1977	1976	1975
Revenues	$52,823	$28,761	$27,254	$23,800*	$20,700*
. Percent increase from previous year	84%	6%	14%	20%	--
Income before taxes and extraordinary item	$ 2,172	$ 1,636	$1,765	$ 700*	$ (75)*
. Percent increase (decrease) from previous year	33%	(7%)	152%	NA	--
Net income	$ 1,250	$ 996	$1,210	$ 579*	$ (133)*
. Percent increase (decrease) from previous year	26%	(18%)	109%	NA	--

* Company estimate

- Based on revenues of $36.2 million for the first half of 1980, CSG management projects revenues of $78 million for 1980.
 - Revenues derived from parent organizations will be an estimated $15 million, or 19% of 1980 revenues.
 - Growth in total revenue is attributed to non-captive business, as captive revenues have remained fairly constant over the years.
- CSG's business is organized into three major groups: Industry Services, Processing Services and Professional Services. These groups are further specialized by division.
 - The Industry Services Group provides specialized remote computing services and turnkey systems through five divisions.
 - Cogito Division: provides a complete range of student scheduling and reporting services to over 330 schools and school boards from offices in Montreal, Toronto, Princeton (NJ) and Mountain View (CA).

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- Keydata Canada Division: specializes in packaged business accounting systems for manufacturers, importers and distributors. Keydata's packages are available both on a timesharing system and on a turnkey basis. Offices are located in Toronto and Montreal and serve over 100 customers.

- Multiple Access Division (Canada): through its data center in Don Mills, Ontario, the division provides value added processing services to over 850 high-technology, scientific and engineering clients. Services include financial planning, management sciences, project management and data base services.

- Multiple Access Division (Los Angeles): provides interactive, batch and remote batch processing services to approximately 60 clients. Engineering, management science and financial applications are also available on the system.

- Multiple Financial Services Division: offers unique, value added processing and administrative services to the banking, brokerage and investment communities. The division has over 100 clients in Canada and the U.S.

- The Processing Services Group provides interactive, remote batch, and COM processing services to clients in the U.S. and Canada from data centers located in Toronto, Montreal and Calgary.

 - The Commercial Marketing Division offers these services to all commercial clients through Eastern, Western and Central Sales Regions.

 - The Federal Marketing Division offers processing services to Canadian and U.S. Federal Governments.

- The Professional Services Group provides applications software development and turnkey minicomputer services through three divisions.

 - Business Information Systems Division: offers consulting in the design, development and implementation of large-scale and minicomputer systems for commerical, scientific and engineering applications.

 - Advanced Technology Division: specializes in high-technology minicomputer applications such as air traffic control systems, taxi-based dispatch systems, automated telex exchange and graphics systems. Custom turnkey systems for automated materials handling and process control systems are also developed.

 - Minicomputer Business Systems Division: supplies turnkey systems to selected industries including manufacturing, property

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management, publishing and distribution. These systems use DEC, MICOS, and CSG's own NUTAK minicomputers.

- CSG's objectives of expanding geographic coverage, increasing the number of specialized product and service offerings, and attaining a greater level of highly skilled personnel, have resulted in the following acquisitions over the past two years:

 - In October 1978, CSG acquired Eric Moss & Associates Ltd. of Montreal. The company was consolidated with CSG in 1979 and is now part of the Eastern Region office of the Processing Services Group. Eric Moss provided general data processing services and offered a general accounting package, a specialized package for the garment industry and a fuel oil distribution package.

 - Also in October 1978, CSG acquired Computmatik Inc., which marked CSG's entry into the U.S. marketplace. Compumatik offers a complete line of school scheduling services. This acquisition brought CSG over 300 new customers in both the U.S. and Canada. U.S. branches, known as Cogito, are located in Mountain View (CA) and Princeton (NJ).

 . CSG acquired all the issued and outstanding shares of Eric Moss & Associates and Compumatik for $679,000.

 - In April 1979, the company acquired a further 6.3% interest in Digital Methods Limited for $28,968 cash, to bring its total shareholding to 100%.

 - In May 1979, CSG acquired all of the issued and outstanding shares of AGT Data Systems Limited for $7,362,859. AGT, more commonly known as the Multiple Access Computer Group, offers a full range of engineering applications, financial planning, science and data base management services.

 . Divisional operations of Multiple Access included Access, Comserve, Keydata Canada and Multiple Financial Services Ltd.

- CSG's 1,169 employees are segmented as follows:

Industry Services Group	399
Processing Services Group	359
Professional Services Group	286
Finance and Administration Division	104
Marketing and Corporate Development Division	15
Personnel	6
	1,169

- Major competitors to CSG include Computel Systems Ltd., Computer Sciences of Canada, Datacrown Inc., IBM Canada (Data Center Services), Industrial Life Technical Services (IST) and Systemhouse Ltd.

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KEY PRODUCTS AND SERVICES

- INPUT estimates that CSG's 1980 non-captive revenues were derived 80% from processing services, 15% from professional services and 5% from turnkey systems.

- CSG offers interactive, remote batch, batch and computer output microfilm processing services.

 - General business, scientific and engineering, utility and industry specialty applications are available.

 - A profile of CSG's Processing Services Group and Multiple Access Division network applications is presented in Exhibit A.

- A breakdown of services provided by each of CSG's line groups follows:

CANADA SYSTEMS GROUP LTD.
PROJECTED 1980 REVENUE SOURCES BY LINE GROUP

Line Group	Revenues ($ Millions)	% Of Total	Non-Captive Revenues ($ Millions)	% Of Total
Industry Services	$27	34%	$27	34%
Processing Services	37	48	24	31
Professional Services	14	18	12	16
Total	$78	100%	$63	81%

- In November 1979, CSG signed a contract with Traders Group Ltd. to provide financial and administrative processing services. Revenues are valued at $19 million over the five-and-one-half-year contract period.

- The COMET electronic messaging system was introduced in 1979. COMET is available on either a shared access or turnkey basis.

 - CSG has exclusive Canadian rights to COMET, which was developed by Computer Corporation of America.

- Major CSG developments in 1980 include the following:

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EXHIBIT A

CANADA SYSTEMS GROUP

NETWORK APPLICATION PROFILE

PROCESSING SERVICES GROUP

- OPERATING ENVIRONMENT
 - IBM 303X; 370/168; 360 MVS, EDOS
 - TSO, CSG/WYLBUR, CICS/VS, JES 2
- PROGRAMMING LANGUAGES SUPPORTED
 - ASSEMBLER
 - BASIC
 - COBOL
 - FORTRAN
 - OS RPG II
 - PL/1
- DATA MANAGEMENT SOFTWARE
 - DATAMAN
 - DATAMANAGER
 - EASYTRIEVE
 - IDMS
 - IMS/VS
 - MARK IV
 - SYSTEM 2000
- FINANCIAL APPLICATIONS/TOOLS
 - MSA AP, AR, GL, PAYROLL, PERSONNEL, SUPPLIES INVENTORY CONTROL
 - INCOME TAX
 - SIMPLAN (FINANCIAL MODELING)
- PROJECT MANAGEMENT
 - ICES - PROJECT 1
 - PROJACS
- ECONOMETRICS AND STATISTICS
 - MOSAIC
 - S/360 SSP
 - WATLIB
 - MPSX
 - DATABANK/MASSAGER
 - X 11
 - SPSS
 - BMDP
 - SAS
- PROGRAM DEVELOPMENT
 - WATBOL
 - WATFIV
 - LIBRARIAN
 - ENSURE
- OTHER KEY PRODUCTS
 - COMPUTER OUTPUT MICROFILM
 - DES (DISTRIBUTED EDITING SERVICE)

MULTIPLE ACCESS DIVISION

- OPERATING ENVIRONMENT
 - CDC CYBER 174, 720, 6600 NOS
- DATA MANAGEMENT SOFTWARE
 - SYSTEM 2000
 - TCL
 - DRS
 - IS/ATHENA
 - KWIC
 - SIR
- FINANCIAL APPLICATIONS/TOOLS
 - AMS FORECASTING
 - FINMOD
 - FIPAC
 - MPS-F
 - REALFINE
 - GENERAL LEDGER
- MANAGEMENT SCIENCE
 - BMD
 - BMDP
 - GPSS V
 - MATHLIB
 - OPHELIE
 - PMCS
 - PROPLAN
 - SIBYL/RUNNER
 - STATPAK
- VARIOUS APPLICATIONS AVAILABLE IN:
 - ELECTRICAL/ELECTRONIC ENGINEERING
 - CIVIL ENGINEERING
 - STRUCTURAL ENGINEERING
 - GENERAL FINITE ELEMENTS
 - MECHANICAL ENGINEERING
 - PETROCHEMICAL ENGINEERING
- OTHER KEY PRODUCTS
 - AUXPLOT
 - CALCOMP
 - FTNXLIB
 - GRAPHICS
 - PLOT 10
 - SERGE
 - SPSS

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- CSG provided the computerized election system used by CTV Television Network during Canada's Federal Election on February 18, 1980. The effort involved over 1,000 people, 80 terminals and CSG's computing and teleprocessing facilities at Mississauga.

 . CSG and CTV have run four election broadcasts without any systems downtime, allowing CTV to be the first to accurately declare the elections each time.

- In April 1980, CSG announced the availability of SNA in a fully supported production environment.

- CSG opened a Western Region Processing Center in Calgary in May 1980.

- Also in May 1980, CSG was licensed to market CHOICES (Computerized Heuristic Occupational Information Exploration System) on behalf of the Canadian Employment and Immigration Commission. CHOICES is an interactive system developed for persons seeking career information, employment or retraining, and is marketed in the U.S. and Canada.

- CSG is developing a data base system to aid in heavy oil extraction for the Alberta Oil Sands Technology Research Authority (AOSTRA). The system will compile data on oil temperatures, flow rates and pressures generated by pilot projects in experimental oil recovery plants. Technology packages composed of this data will be licensed to oil companies in order to accelerate technological development and prevent duplication of research. CSG will use IDMS in the formation of the AOSTRA database, which will be operational in fall 1980.

- The COMPUTER DISPATCH system, developed by CSG for Ottawa's Blue Line Taxi, will be fully operational by year end 1980. Using Gandalf terminals and dash mounted display screens, the system will replace all voice communication in taxi dispatch, except in emergencies. Up to 10,000 customers calls daily can be entered into the computer via display terminals and dispatched to available taxis.

INDUSTRY MARKETS

- CSG has clients in all industry sectors, with concentration in banking and finance, manufacturing and government.

GEOGRAPHIC MARKETS

- In 1979, approximately 90% of CSG's non-captive computer services revenues were derived from Canada, while the remaining 10% came from the U.S.

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- Canada Systems Group has nine Canadian and four U.S. locations. Canadian branch offices are in: Calgary and Edmonton, Alberta; Vancouver, British Columbia; Winnipeg, Manitoba; Don Mills, Mississauga, Ottawa, and Toronto, Ontario; and Montreal, Quebec. In the U.S., branches are located in Los Angeles, San Francisco, Princeton (NJ), and Washington (DC).

COMPUTER HARDWARE

- CSG maintains the following equipment in its five data centers.

 - Mississauga, Ontario:
 . One IBM 3033, MVS.
 . Two IBM 370/168-3 AP, MVS.
 . One IBM 8100 (for research purposes only).

 - Don Mills, Ontario:
 . One CDC Cyber 720, OS.
 . One CDC 6600, OS.
 . One CDC Cyber 174,OS.

 - Calgary, Alberta:
 . One IBM 3033-N, MVS. (To be replaced by one IBM 3033 by the 4th quarter 1980.)

 - Montreal, Quebec:
 . One IBM 360/50, EDOS.
 . One IBM 360/40, EDOS.

 - Los Angeles, California:
 . One Itel AS/5-3, MVS.
 . One IBM 360/65, DOS.

- CSG's National Communications Network serves an estimated 60 cities in Canada.

 - Remote computing is offered via dial-up or dedicated lines, leased lines, Datapac, Telenet and Tymnet Services.

 - CSG's Teleprocessing Control Center interfaces with the network and monitors all communications on a 24-hour basis.

 . Teleprocessing software includes CICS, TSO and WYLBUR.

- Selected by the Computer Communications Group of Bell Canada, CSG will participate in Bell's first full-scale field test of fiber optics technology for high-speed digital data communications beginning in January 1981.

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INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

January 1997

Candle Corporation

Chairman & CEO: Aubrey Chernick
President & COO: Robert J. LaBant
2425 Olympic Boulevard
Santa Monica, CA 90404
Phone: (310) 829-5800
Fax: (310) 582-4287
Internet: http://www.candle.com

Status:	Private
Employees:	1,300 (12/96)
Revenue:	$266,000,000
Fiscal Year Ending:	12/31/96

Key Points

- Candle Corporation (Candle) is a leading independent developer and supplier of Solutions for Networked Businesses™. Candle offers Solutions for Networked Applications™, which includes software and services to help customers design, develop, test, and deploy applications that run their businesses. Candle also offers Availability Management Solutions, which include advanced systems management tools, such as the Candle Command Center™, to help customers manage the performance and availability of their systems and applications.
- In January 1997, Candle acquired the MQView product line from Apertus Technologies Inc., increasing the company's range of message-based solutions.
- In November 1996, Candle acquired PowerQ Software Corporation, a developer of application test and development solutions for MQSeries, IBM's messaging middleware.
- In October 1996, the company launched the Candle Business Partner program, a value-added reseller (VAR) program.

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All brand names and product names are acknowledged to be trademarks or registered trademarks of their owners.

- In September 1996, the company acquired AMSYS North America, an MQSeries services provider.

- In September 1996, Candle announced its new initiative, Solutions for Networked Applications, offering both traditional systems management tools (performance, configuration, etc.) as well as solutions for application professionals.

- In July 1996, Robert J. LaBant was appointed as president and chief operating officer.

- In July 1996, the company acquired CleverSoft, Inc. a developer of management solutions for Lotus Notes.

- In February 1996, Candle acquired Aurora Systems, Inc.'s MQSeries monitoring product, MQMON™ for MVS, to enhance the Candle Command Center™ for MQSeries.

- In December 1995, the company began shipping its Candle Command Center solutions that enable the integrated management of distributed and mainframe systems.

Company Description

Candle was founded in 1976 Aubrey Chernick, developer of OMEGAMON® for MVS, the first real-time performance monitor for IBM's MVS operating system.

The company, which celebrated its 20th anniversary in 1996, is a leading independent developer and supplier of systems management software.

Candle's products and services for enterprise availability management, including automation, status management, application integration, and database management, are currently installed in more than 5,000 data centers in more than 30 countries worldwide.

Structure and Operations

Headquartered in Santa Monica (CA), the company has offices in 42 locations worldwide.

North American offices are located in Agoura Hills, Corte Madera, Sunnyvale, and Westlake Village (CA); Atlanta and Norcross (GA); Boston (MA); Cincinnati (OH); Dallas and Houston (TX); Detroit (MI); Englewood (CO); Falls Church and McLean (VA); New York City and White Plains (NY); Oak Brook (IL); Philadelphia (PA); Rochester (MN); Tampa (FL); and Toronto and Vancouver (Canada).

Candle's European headquarters are located in Paris (France). The company's Asia/Pacific headquarters are located in North Sydney (Australia).

International locations are in Australia, Austria, Belgium, Brazil, Denmark, Finland, France, Germany, Hong Kong, Italy, Japan, South Korea, Malaysia, the Netherlands, Norway, Singapore, Sweden, Switzerland, and the U.K.

The company has distributors in Argentina, Greece, Israel, Italy, Mexico, the Philippines, Portugal, Saudi Arabia, South Africa, Spain, Taiwan, Thailand, Turkey, Venezuela, California, and Texas.

Candle's key executives are summarized on the following page.

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Candle Corporation
Key Executives

Name	Title
Aubrey Chernick	Chairman & CEO
Bob LaBant	President & COO
Kenny Slutsky	Vice Chairman
Byron Prinzmetal	VP, Information Technology and Infrastructure Reengineering
Don Mellert	VP and CFO
Chris Graham	VP and Controller
Ken Larson	VP, H R & Administration
Joan Seavey	VP, Communications
Christine von Wrangel	VP and General Counsel
Andy Mullins	VP, Solutions Management
Steve Craggs	VP, Solutions for Networked Applications
Tony D'Errico	VP, Professional Services
David Malmstedt	VP, Americas
Bernard Girbal	VP, Europe
Jon de Wit	VP, Asia/Pacific
John Kogel	VP, R&D/Genesis Group
Art Goldstein	VP, Research & Development

Company Strategy

Candle is currently four years into a seven-year, $500 million research and development program targeting development for new distributed and mainframe solutions, as well as support of current mainframe products. The company is also investing in middleware solutions, such as IBM's MQSeries and Microsoft's messaging software.

As part of this program, research and development expenditures have averaged 30% of revenue over the past five years.

In September 1996, Candle announced a set of new initiatives and products, broadening its focus from enterprise-wide availability management for production applications to include:

- The design, development, and implementation of middleware-based applications
- New open connections to other management systems and tools
- The rapid expansion of its professional services organization
- Services and tools to connect current business systems to the Internet

The company employs a partnership strategy and works with leading middleware organizations to provide products and services for availability management for applications, systems, and networks; tools to manage middleware and middleware-based applications; and an expanding services organization to design, develop, and deploy new middleware applications across networks, including the Internet.

In an effort to provide customers with high-quality products and services, Candle follows a product pricing strategy called Quick Start Pricing—designed to match the value of its products and services to customers' requirements.

Financials

Candle's 1996 revenue reached $266 million, a 16% increase over revenue of $230 million for 1995.

A five-year financial summary appears below.

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Candle Corporation
Five-Year Financial Summary
($ Millions)

Item	Fiscal Year				
	1996	1995	1994	1993	1992
Revenue	$266.0	$230.0	$213.0	$210.0	$196.0
• Percent increase from previous year	16%	8%	1%	7%	16%

Market Financials

Candle's revenue is derived from many industry sectors, including banking, retail, manufacturing, utilities, finance, aerospace, medial, and telecommunications.

Approximately 75% of the Fortune 500 companies use Candle products.

Revenue Analysis by Product Line:

Virtually 100% of Candle's 1996 revenue was derived from software products and associated maintenance services.

Geographic Markets

Approximately 60% of Candle's 1996 revenue was derived from the U.S. and the remaining 40% from international sources.

Candle's products are licensed extensively in the U.S. and in over 30 countries worldwide.

Acquisitions

Recent acquisitions made by Candle include the following:

- In January 1997, Candle purchased the MQView product line from Apertus Technologies Incorporated for approximately $7.4 million.
 - MQView is a product for centralized installation, configuration, and monitoring of IBM's MQSeries messaging software in a distributed environment.
 - This acquisition expands Candles software portfolio allowing it to offer one of the broadest ranges of message-based solutions in the industry.
- In November 1996, Candle acquired Norcross (GA)-based PowerQ Software, a developer and marketer of the PowerQ Series of application test and development solutions for MQSeries application programmers.
 - With the acquisition of PowerQ Software, Candle has broadened its business focus beyond availability management to include providing Solutions For Networked Applications.
 - PowerQ's president and chief technologist, Bill Emerson, is heading up Candle's new application development laboratory, to be located in Norcross (GA).
- In September 1996, Candle acquired AMSYS North America, a software integration services organization specializing in the installation, configuration, software development, and training services for middleware and MQSeries commercial messaging systems.
 - This acquisition enhances Candle's newly expanded professional services organization, providing resources to assist in the implementation of middleware and MQSeries solutions.

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- Services of the new AMSYS professional services unit include professional consulting, architecture and design of complex solutions, application development and deployment, and project management services.

- AMSYS North America's CEO, Ian Hadfield, is now heading Candle's worldwide messaging/middleware services practice.

- In July 1996, Candle entered into the Notes management business with the acquisition of Scarborough (ME)-based CleverSoft, Inc., a developer of management solutions for Lotus Notes.

 - Included in the acquisition is CleverWatch, CleverSoft's solution for monitoring and managing Lotus Notes servers, and Clever Analysis, a capacity analysis planning and reporting tool.

 - Candle's new Notes-focused business is headed by CleverSoft President Alex Bakman, who is also Candle's vice president of solutions.

Employees

As of December 31, 1995, Candle had 1,213 employees. The company currently has approximately 1,300 employees.

Key Products and Services

Candle Command Center™

The Candle Command Center is a network and systems management system built on an object-based architecture that also forms the central point for managing mission-critical applications. Solutions manage the availability and performance of systems, networks, and applications spanning the enterprise.

Candle Command Center solutions provide systems management tools for mainframe, distributed, and client/server systems.

- Candle Command Center for Distributed Systems is for midrange and distributed environments. This can be configured with OMEGAMON Monitoring Agents™ for:

 - UNIX—Supporting AIX, HP-UX, Solaris, SunOS, and SINIX

 - Microsoft SQL Server

 - Oracle, Sybase, and Informix

 - Microsoft Windows NT

 - NetWare

 - IBM OS/2

 - Alert Adapters™ for NetView for AIX, CA-Unicenter, HP OpenView, and Tivoli/TME 10 Enterprise Console—To monitor TCP/IP and SNA from a single workstation

- Mainframe-based Candle Command Center solutions include:

 - Sysplex—For IBM MVS 5.1 and above

 - CICS—For all supported releases of IBM's CICS

 - IMSplex—For IBM's IMS

 - DB2plex—For IBM's DB2 relational database

 - MQSeries—For IBM's messaging middleware

- The Candle Command Center also offers Command & Control™ facilities to provide a single point for accessing console facilities and messages from a variety of systems, including MVS, UNIX, OS/2, and Windows NT.

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- Candle Command Center Automation allows direct console access to issue system commands and resolve availability problems.

- Used in conjunction with Candle Command Center, OMEGAVIEW II™ for the Enterprise provides a centralized view of all system and application events, allowing users to manage a variety of systems or applications that cross multiple platforms.

Availability Command Center™

Candle's Availability Command Center solutions help data center managers assess the performance of systems by providing on-line views of the condition of critical applications, regardless of the platforms and resources they use.

Availability Command Center components include the following:

- OMEGAVIEW—The graphical, central point of control for displaying system status of response time, resources, and customer-defined exceptions

- OMEGACENTER Gateway™ for MVS—The analytical engine that filters, evaluates, and responds to critical events reported from multiple sources

- OMEGACENTER Gateway for OS/2—From an outboard workstation, systems management for multiple platforms, including Digital, Tandem, and Hewlett-Packard RS/6000

- OMEGAMON II—Performance monitors for real-time and historical analysis of system performance of MVS, CICS, DBCTL, DB2, IMS, VTAM, VM, and SMS

Solutions for Networked Applications™

Under the company's new initiative, Solutions for Networked Applications, Candle offers products and services to help customers design, deploy, and manage new middleware-based applications. The initiative offers both traditional systems management tools and solutions for application professionals, as well as including design solutions through the Candle Design Network, middleware solutions, and security tools.

- Packaged solutions include products and services for the deployment of networked applications based on MQSeries.

- Candle Consulting and Services provides consultants and other specialists with skills in building networked applications.

- The global Design Network™ provides customers with access to experts in emerging middleware technologies.

- Candle Command Center for MQSeries is an integrated solution for managing the availability and performance of MQSeries resources.

- Candle Command Center for MQSeries Configuration Manager is a tool that simplifies configuration definition and management.

- MQSeries Fundamentals Computer-Based Training provides cost-effective training for learning the basics of MQSeries.

- MQView is a standards-based system management software for centralized installation, configuration, and monitoring of MQSeries messaging software.

- PQEdit is an application development tool that helps speed applications to production.

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- Consulting services concerning all aspects of MQSeries were added with the acquisition of AMSYS North America in September 1996.

- Candle also provides a solution for managing desktop applications, which includes IntelliWatch Monitor for Lotus Notes (formerly CleverWatch), which is a Notes server-based availability and performance management system.

Customer Support

Candle Electronic Customer Support (CECS) provides 24-hour, seven-days-per-week support to customers, including on-site, telephone, and on-line support. Services offered include:

- Technical Solutions
- Maintenance
- Preventative Service Planning
- Incident Reporting
- News and Alerts
- Education
- E-mail Facility
- Product Documentation/Upgrades
- File Delivery Services

Clients

Candle has more than 70,000 customers worldwide, including American Express, MCI, Northrup Grumman, Interpay (Bank Giro), Baptist Healthcare, JPL, and Bankers Trust, among others.

Marketing and Sales

Candle's products are sold to multiple industries. The company has traditionally sold its products worldwide through a network of agents that provide complete coverage across Europe, South America, Asia, and the Middle East.

In October 1996, the company launched its expansion into new distribution channels by introducing its VAR program, the Candle Business Partner Program. This was the first phase of a new distribution initiative that will expand to include channels such as telesales, telemarketing, catalog sales, Internet sales, systems integrators, network integrators, independent software vendors (ISVs), and OEMs.

As part of its marketing efforts, Candle also publishes several newsletters that bring technical and data management issues to its customers, including the *Candle Computer Report (CCR)* and *Enterprise*. During 1996, the company made the CCR available on its home page on the World Wide Web.

Alliances

Candle works collaboratively with a variety of partners, including IBM, Computer Associates, Microsoft Corp., Computer Sciences Corp., EDS, Tivoli Systems, Lotus Development Corp., and Unison Software.

The newly formed Business Partner Program is intended to broaden the company's reach through a variety of distribution channels. Currently, it covers the VAR distribution channel, but will grow to include other forms of distribution in the future.

Members of the Business Partner Program include Grumman Systems Support Corp., Integrated Concepts, Inc., and Palarco Inc.

Other recent alliances include:

- In September 1996, Candle signed an agreement to license Tivoli Systems Inc.'s Framework and Integration toolkits to integrate the TME 10 framework into Candle Command Center products.

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- This licensing agreement enables Candle to provide customers with a means for sharing data between both companies' system management frameworks.

- The agreement also provides Candle with the ability to interface its systems management solutions with Tivoli-based modules developed by other software vendors.

- In October 1996, Candle entered into a marketing alliance with Unison Software, a vendor of systems management software for open systems.

 - Contributing to Candle's plan to expand its distribution channels, the company will resell Unison's UNIX- and NT-based products, including Maestro, Load Balancer, and RoadRunner.

 - Candle Command Center customers will be able to add Unison's job scheduling, workload balancing, and backup and restore capabilities to Candle's availability management solutions.

- In July 1996, Candle and Across Data Systems, Inc. announced a strategic alliance that focuses on the development and distribution of products and services that support IBM's MQSeries messaging middleware.

 - Across Data Systems is a developer and provider of middleware software and consulting services.

 - As part of the agreement, Candle acquired Level 8's MQ/Secure product, which provides enhanced security for IBM MQSeries transactional messaging.

 - Also provided for in the agreement was Candle's acquisition of 4% of Across Data Systems' common stock, at $11.00 per share.

- In June 1996, Candle began a three-year project for MCI Telecommunications Corp. to equip MCI with systems management products that will allow the company to manage several mainframes and thousands of distributed servers located in several MCI data centers throughout the U.S.

- In May 1996, IBM and Candle announced the joint marketing agreement under which Candle is remarketing solutions based on IBM's MQSeries messaging middleware.

Competition

Candle's major competitors include Boole & Babbage, LEGENT, Computer Associates, BMC Software, and Platinum.

Assessment

Candle feels its strengths include:

- A loyal customer base and a reputation for quality in its traditional markets

- The global reach and presence for a company of its size

- Significant research and development investment in offering innovative and new technologies for customers

Challenges faced by the company in the coming year include:

- Delivering on its Solutions for Networked Businesses strategy

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- Ensuring its channel programs are comprehensive and attractive enough to engage the channel

- Reinventing and repositioning itself in order to break into new markets and gain credibility in areas such as application connectivity and Internet access

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IT2000

INPUT

Vendor Profile

A Publication from INPUT's Vendor Analysis Program – U.S.

June 1994

Candle Corporation

Chairman & CEO: Aubrey Chernick
2425 Olympic Boulevard,
Santa Monica, CA 90404
Phone: (310) 829-5800
Fax: (310) 582-4287

Status:	Private
Employees:	1,100 (6/94)
Revenue:	$ 210,000,000
Fiscal Year Ending:	12/31/93

Key Points

- Candle is a leading independent developer and supplier of systems management software to manage manages the availability and performance of critical business applications.
- In May 1994, Candle announced a management framework—Candle Availability Command Center—that provides management in distributed environments.
- In April 1994, Candle and Computer Associates agreed to joint development opportunities.
- In March 1994, Candle announced an agreement with Microsoft to combine Candle's cross-platform expertise with Microsoft's technology on desktops and servers.
- In 1993, Candle released its new OMEGAMON II for SMS—a real-time and historical analysis and performance monitor for SMS and non-SMS environments.
- In March 1993, the company announced that it would deliver OMEGAMON monitors for UNIX environments.

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Company Description

Candle Corporation is a leading independent developer and supplier of systems management software for IBM mainframe and distributed SMS environments, including MVS, CICS, DB2, VM, IMS, CICS/VSE, DBCTL and VTAM.

Candle's systems software products are currently installed in over 5,000 data centers in over 30 countries worldwide.

The company was founded in 1977 by Chairman and CEO, Aubrey Chernick, developer of OMEGAMON® for MVS, the first real-time performance monitor for IBM's MVS operating system. Since then Candle has developed a complete line of products for systems automation, status management, application integration and database management.

Structure and Operations

Headquartered in Santa Monica (CA), the company has North American offices in Atlanta (GA), Boston (MA), Cincinnati (OH), Corte Madera (CA), Dallas (TX), Detroit (MI), Houston (TX), McLean (VA), New York City (NY), Oak Brook (IL), Philadelphia (PA), Tampa (FL), White Plains (NY), Toronto and Quebec.

Candle's European offices are in Guildford and Manchester (U.K.); Denmark; Munich (European headquarters), Berlin and Düeseldorf (Germany); Finland; Paris (France), the Netherlands; Norway; Switzerland; Stockholm (Sweden), Belgium and Vienna (Austria).

The company's offices in Asia and the Far East are in Sydney (Australia), Hong Kong, Kuala Lumpur (Malaysia), Singapore and Tokyo (Japan).

The company has distributors in Argentina, Brazil, Israel, Italy, Korea, Mexico, Portugal, Saudi Arabia, South Africa, Spain, Turkey and Venezuela.

Company Strategy

Candle is focusing on business and application Availability Management and positioning itself for the emerging world of mainframe, distributed and client/server computing. In doing so, the company is expanding its business scope beyond management of computing and network resources to management of business and application availability.

The company is employing a partnership strategy and working with companies to deliver solutions. It is expanding its mainframe-focused solutions to include mainframe and distributed systems.

In an effort to provide customers with high quality products and services, Candle follows a product pricing strategy called Flex Pricing—designed to match the value of its products with customizable pricing.

Financials

Total 1993 revenue reached $210.0 million, a 7% increase over 1992 revenue of $196.0 million. A five-year financial summary appears on the following page.

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Candle Corporation
Five-Year Financial Summary
($ Millions)

Item	Fiscal Year				
	1993	1992	1991	1990	1989
Revenue	$210.0	$196.0	$168.8	$151.4	$128.1
• Percent increase from previous year	7%	16%	12%	18%	28%

Candle management attributes revenue growth in 1993 to the following:

- Introduction of OMEGAMON II for SMS
- Increasing support for integrated, enterprise-wide availability management.

Research and development expenditures were approximately 25% of revenue in 1993, 1992 and 1991.

Market Financials

Candle's revenue is derived from across industry sectors.

More than 80% of the Fortune 500 companies use Candle products.

Revenue Analysis by Product Line:

Virtually 100% of Candle's 1993 revenue was derived from software products and associated maintenance services.

Geographic Markets

Approximately 60% of Candle's 1993 revenue was derived from the U.S. and 40% from international sources.

Candle's products are licensed extensively in the U.S. and in over 30 countries worldwide.

Employees

As of December 31, 1993, Candle had approximately 900 employees. The company currently has 1,100 employees.

Key Products & Services

Candle's products and systems can be categorized into systems management solutions; applications management solutions; and database management solutions.

The company's systems software products are summarized in the exhibit.

Systems Management Solutions:

Products in this category include the following:

- OMEGAMON was the company's first product, a real-time and historical system monitoring package that searches for hardware or software problems.
 - OMEGAMON® performance monitors are currently available for VM and

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CICS/VSE operating systems and subsystems.

- The OMEGAMON II® series for MVS, IMS, DB2, VTAM, CICS, SMS and DBCTL are designed for multiple users in the data center. Information is presented using status indicators through CUA-compliant screens.

- OMEGACENTER™ is a complete solution for total availability management of the extended enterprise. The system is designed to simplify performance management through early detection of problems, in-depth analysis, automation and remote control. It is comprised of:

 - OMEGAVIEW®—for displaying status of system events

 - OMEGAMON II—performance monitors for real-time and historical analysis

 - AF/OPERATOR®—for automated operations

 - AF/REMOTE™—for remote system access and control

- Transplex™ Navigation—allows customers to seamlessly follow a transaction from CICS, to IMS, DB2 and DBCTL for a complete understanding of transaction processing

Applications Management Solutions:

User productivity products in this category include the following:

- CL/SUPERSESSION®—allows users to tailor applications and provides multiple session support

- CL/CONFERENCE® for MVS—lets VTAM users share continuous on-line sessions initiated by one user and viewed by multiple users simultaneously

Database Management Solutions:

Candle offers a suite of database automation and performance solutions to observe, isolate and fix database problems. DB2 tools available include the following:

- OMEGAMON II for DB2—offers real-time, trending and historical analysis capabilities of DB2 subsystems and their environment

- !DB™/EXPLAIN for DB2—isolates and analyzes resource hungry SQL and recommends immediate solutions

- !DB/WORKBENCH for DB2—provides catalog, query and object management along with an error-free automated utility generation

- !DB/MIGRATOR for DB2—sends DB2 applications from test to production, system to system

- !DB/QUICKCHANGE® for DB2—simplifies implementing changes to DB2 data structures and resolves dependencies between DB2 objects

- !DB/SMU—verifies database integrity and facilitates on-line repair of table and index spaces

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Exhibit-Candle Software Products

PRODUCT	DESCRIPTION
OMEGAMON	Performance monitor
OMEGAMON II for MVS	CUA-compliant performance monitor for MVS
OMEGAMON II for VTAM	CUA-compliant performance monitor for VTAM
OMEGAMON II for DB2	CUA-compliant performance monitor for DB2
OMEGAMON II for IMS	CUA-compliant performance monitor for IMS
OMEGAMON II for CICS/ESA	CUA-compliant performance monitor for CICS/ESA
OMEGAMON II for VM	CUA-compliant performance monitor for VM
OMEGAMON II for CICS/VSE	CUA-compliant performance monitor for CICS/VSE
OMEGAMON II for DBCTL	CUA-compliant analysis/performance management system for IMS
OMEGAMON II for SMS	CUA-compliant performance monitor for SMS and non-SMS environments
OMEGACENTER	Integrated enterprise-wide system for performance monitoring
OMEGAVIEW	Advanced status management system
AF/OPERATOR	Automation tool for system activities
AF/REMOTE	PC-based access to system hardware console
Transplex Navigation	Allows customers to seamlessly follow a transaction
CL/SUPERSESSION	Network-user and application integration tool
CL/CONFERENCE for MVS	On-line application conferencing tool
OMEGAMON II for DB2	CUA-compliant performance monitor for DB2
!DB/EXPLAIN for DB2	Isolates and analyzes SQL and recommends solutions
!DB/WORKBENCH for DB2	Catalog Manager
!DB/MIGRATOR for DB2	Sends DB2 applications from test to production
!DB/QUICKCHANGE for DB2	Simplifies implementing changes to data structures and resolves dependencies between DB2 objects
!DB/SMU for DB2	Verifies database integrity, on-line page repair of table spaces and indexes and space management functions
!DB/DASD for DB2	Reclaims wasted DASD without compression and automatically generates utilities to move data sets
!DB/QUICKCOMPARE	Identifies and highlights differences between databases

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- !DB/DASD for DB2—reclaims wasted DASD without compression and automatically generates utilities to move data sets

- !DB/QUICKCOMPARE™—identifies and highlights differences between databases

In May 1994, Candle announced a management framework—Candle Availability Command Center—that provides management in distributed environments.

Customer Support:

Candle Electronic Customer Support (CECS) provides a 24-hour support to customers. Services offered include:

- Technical Solutions
- Maintenance
- Preventative Service Planning
- Incident Reporting
- News and Alerts
- Education
- E-mail Facility
- Product documentation/upgrades
- File Delivery Services

Clients

Some of Candle's clients include—American Express and Bankers Trust among others.

Marketing and Sales

Candle products are sold to multiple industries. The company sells products worldwide, with a network of agents that provide complete coverage across Europe, South America, Asia and the Middle East.

Candle has approximately 17 offices in North America and 19 international offices in Europe, Asia and the Far East.

As part of its marketing efforts, the company produces numerous newsletters that bring technical and data management issues to more than 70,000 customers. These include—the Candle Computer Report, Interface, Inside Operations and IS People.

Alliances/Joint Ventures

In recent years, Candle has entered into the following agreements:

- In April 1994, Candle and Computer Associates agreed to joint development opportunities.

- In March 1994, Candle announced its agreement with Microsoft to provide enterprise systems management solutions for Microsoft platforms through Candle's Availability Command Center.

- In March 1994, Candle announced its agreement with Transarc Corporation of Pittsburgh (PA), whereby the two companies would partner for systems management products and technologies. Transarc is the developer of Encina, the industry standard for distributed on-line transaction processing based on the DCE technology.

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- In March 1994, Candle announced its support for IBM's parallel query and transaction systems.

Competition

Candle's major competitors include Boole & Babbage, LEGENT, Computer Associates, BMC Software and Platinum.

INPUT Assessment

Candle's main strength lies in its suite of product offerings for systems management. Unlike many privately held companies, Candle has an excellent communications (PR) group that has been effective in promoting the company through the numerous newsletters and press releases that it publishes on a regular basis.

A challenge that Candle faces is to successfully move forward with its new business strategy—management of business and application availability.

Candle has made a strategic move in setting up its Candle Availability Command Center, as it would enable the company to draw directly from the experience that its customers have developed in building their own systems.

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CANDLE CORPORATION

1999 Bundy Drive
Los Angeles, CA 90025
(310) 207-1400

Aubrey Chernick, Chairman and CEO
Merritt Lutz, President and COO
Private Corporation
Total Employees: 935 (12/91)
Total Revenue, Fiscal Year End
12/31/91: $168,800,000

The Company

Candle Corporation is a leading independent developer and supplier of systems management software for IBM mainframe environments, including MVS, CICS, DB2, VM, IMS, CICS/VSE, and VTAM.

- The company was founded in 1977 by Chairman and CEO Aubrey Chernick, developer of OMEGAMON® for MVS, the first performance monitor for IBM's MVS operating system. Since then, Candle has developed a complete line of products for systems automation, status management, application integration, and data base management.

- Candle's systems software products are currently installed in over 7,000 data centers in over 30 countries worldwide.

In 1991, Candle became an initial member of the IBM International Alliance for SystemView. As a result of this partnership, Candle plays a critical role in planning, developing, and marketing SystemView solutions with IBM. Candle is also working closely with IBM to extend the benefits of SystemView to the AS/400 arena.

Also during 1991, Candle unveiled its Candle Technologies™ (CT™), an object-oriented, open systems development technology for distributed processing. CT will be used as the foundation for Candle's future product development.

Candle's 1991 revenue reached $168.8 million, a 12% increase over 1990 revenue of $151.4 million. A five-year revenue summary follows:

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CANDLE CORPORATION
FIVE-YEAR REVENUE SUMMARY
($ millions)

	FISCAL YEAR				
ITEM	1991	1990	1989	1988	1987
Revenue	$168.8	$151.4	$128.1	$100.3	$82.0
· Percent increase from previous year	12%	18%	28%	22%	15%

Candle management attributes growth to new product offerings and the IBM SystemView relationship.

Candle's primary competitors include Boole & Babbage, LEGENT, Platinum, and BMS Software.

Key Products and Services

Virtually all of Candle's 1991 revenue was derived from software products and associated maintenance services.

Candle's systems software products are summarized in the exhibit.

OMEGAMON, the company's first product, is a real-time system monitoring package that searches for hardware or software problems.

- OMEGAMON performance monitors are currently available for MVS, IMS, CICS, DB2, VM, VSE, and VTAM operating systems and subsystems. There are over 14,000 OMEGAMON licenses worldwide.

The OMEGAMON II series for MVS, IMS, DB2, VTAM, and CICS/ESA are designed for multiple users in the data center. Information is preseneted using status indicators through CUA-compliant screens.

OMEGACENTER™, introduced in 1989, is an integrated, enterprise-wide software system for data center management. The system is designed to simplify performance management through early detection of problems, in-depth analysis, automation, and remote control. OMEGACENTER includes: OMEGAVIEW®, for displaying system conditions and status for MVS, CICS, IMS, DB2, VM, and VTAM operating systems; OMEGAMON performance monitors for real-time analysis; AF/PERFORMER, for automated performance management; AF/OPERATOR, for automated operations; and AF/REMOTE, for remote access and control.

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EXHIBIT

CANDLE CORPORATION SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION
OMEGAMON®	Performance monitor
OMEGAMON II® for MVS	CUA-compliant performance monitor for MVS
OMEGAMON II® for VTAM	CUA-compliant performance monitor for VTAM
OMEGAMON II® for DB2	CUA-compliant performance monitor for DB2
OMEGAMON II® for IMS	CUA-compliant performance monitor for IMS
OMEGAMON II® for CICS/ESA	CUA-compliant performance monitor for CICS/ESA
OMEGAMON II® for VM	CUA-compliant performance monitor for VM
OMEAGON II® for CICS/VSE	CUA-compliant performance monitor for CICS/VSE
OMEGACENTER™	Integrated enterprise-wide system for performance monitoring
OMEGAVIEW®	Advanced status management system
OMEGAMON® Performance Pacs™	Performance monitoring systems
DELTAMON®	Change reporting system
AF/PERFORMER™	Automated performance manager
AF/OPERATOR®	Automation tool for system activities, including system start-up and shut-down, problem diagnoses, console management, and multisystem support
AF/REMOTE™	PC-based access to system hardware console
Data Base Management Tools	
!DB2™/WORKBENCH for DB2	Catalog manager
!DB2™/MIGRATOR for DBs	Sends DB2 applications from test to production, system to system
!DB2™/EXPLAIN for DB2	Isolates and analyzes resource-hungry SQL and recommends solutions
!DB2™/SMU for DB2	Verifies data base integrity, on-line page repair of table spaces and indexes, and space management functions
!DB2™/DASD	Reclaims wasted DASD without compression and automatically generates utilities to move data sets
User Productivity Products	
CL/SUPERSESSION®	Network-user and application integration tool for tailoring applications and multiple session support without affecting source code.
CL/GATEWAY® for IMS	Single-point access to multihost, multi-application IMS/DC installations
CL/CONFERENCE®	On-line application conferencing tool

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Candle's data base management tools, acquired in early 1990, offer support for the consistent management of the entire DB2 life cycle--from design and development through implementation, administration, management, and change.

Industry Markets

Candle's revenue is derived from across industry sectors.

More than 80% of the Fortune 500 companies use Candle products.

Geographic Markets

Approximately 50% of Candle's 1991 revenue was derived from the U.S. and 50% from international sources.

Candle's products are licensed extensively in the U.S. and in over 30 countries worldwide.

- In addition to headquarters in Los Angeles, U.S. offices are located in Atlanta (GA); Boston (MA); Oakbrook (IL); Cincinnati (OH); Dallas and Houston (TX); Detroit (MI); Larkspur, Irvine, and Marina del Rey (CA); McLean (VA); New York City and White Plains (NY); and Tampa (FL).

Candle sells products worldwide, with a network of agents in 12 other countries to provide complete coverage across Europe, South America, Asia, and the Middle East.

- International offices are located in the U.K., Austria, France, Germany, Norway, Sweden, Switzerland, the Netherlands, Hong Kong, Singapore, Malaysia, Australia, New Zealand, and Japan.

- International distributors are located in Argentina, Brazil, Israel, Italy, Korea, Mexico, Portugal, Saudi Arabia, Spain, Taiwan, Turkey, and Venezuela.

Computer Hardware and Software

Candle has the following computers installed at its data center in Los Angeles:

- 2 IBM 3090-400J, VM/MVS/VSE
- 2 IBM AS/400s, OS/400
- 1 RISC/6000, AIX

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CANDLE CORPORATION

1999 Bundy Drive
Los Angeles, CA 90025
(213) 207-1400

Aubrey Chernick, Chairman and CEO
Merritt Lutz, President and COO
Private Corporation
Total Employees: 1,050 (6/91)
Total Revenue, Fiscal Year End
12/31/90: $151,400,000

The Company

Candle Corporation, founded in 1977, develops, markets, and supports systems management software for IBM mainframe operating systems. The company's initial product, OMEGAMON[R] for MVS, was the first performance monitor for IBM's MVS operating system. Candle also offers system automation, application integration, and data base management tools.

- In May 1990, Candle completed the acquisition of six DB2 data base management products from CDB Software, Inc. of Houston (TX). Under the terms of the agreement, Candle and CDB Software will jointly develop new products and maintain the current DB2 products. Candle is responsible for worldwide distribution and customer support for the acquired products.

- In September 1990, Candle announced its intention to fully support IBM's System View, System/390, and ES/9000. Candle is an IBM Business Partner and an Application Specialist.

Candle's 1990 revenue reached $151.4 million, an 18% increase over 1989 revenue of $128.1 million. A five-year revenue summary follows:

CANDLE CORPORATION
FIVE-YEAR REVENUE SUMMARY
($ millions)

	FISCAL YEAR				
ITEM	1990	1989	1988	1987	1986
Revenue	$151.4	$128.1	$100.3	$82.0*	$71.0*
· Percent increase from previous year	18%	28%	22%	15%	18%

** INPUT estimates*

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Candle management attributes growth to increased international sales and an overall increase in sales volume.

As of December 31, 1990, Candle had approximately 1,000 employees. The company currently has about 1,050 employees.

Candle's primary competitor is Boole & Babbage.

Key Products and Services

Virtually all of Candle's 1990 revenue was derived from software products and associated maintenance services. It is estimated that less than 2% was derived from education and training and consulting services.

- Approximately 95% of revenue is drived from systems management products and the remaining 5% from DB2 data base management and user productivity tools.

Candle's systems software products are summarized in the exhibit.

OMEGAMON, the company's first product, is a real-time system monitoring package that searches for hardware or software problems.

- OMEGAMON performance monitors are currently available for MVS, IMS, CICS, DB2, VM, VSE, and VTAM operating systems. There are over 14,000 OMEGAMON licenses worldwide.

- OMEGAMON II for MVS, introduced in 1990, is designed for multiple users in the data center. Information is presented using status indicators through CUA-compliant screens.

- OMEGAMON II for VTAM is a performance monitor for VTAM.

OMEGACENTER™, introduced in 1989, is an integrated, enterprise-wide software system for data center management. The system is designed to simplify performance management through early detection of problems, in-depth analysis, automation, and remote control.

- OMEAGACENTER is composed of: OMEGAVIEW™, for displaying system conditions and status for MVS, CICS, IMS, DB2, VM, and VTAM operating systems; OMEGAMON performance monitors for realtime analysis; AF/PERFORMER, for automated performance management;

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EXHIBIT

CANDLE CORPORATION SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION
OMEGAMON®	Performance monitor
OMEGAMON II for MVS	CUA-compliant performance monitor for MVS
OMEGAMON II for VTAM	Performance monitor for VTAM
OMEGACENTER™	Integrated systems management product
OMEGAVIEW™	Advanced status management system
OMEGAMON® Performance Pacs™	Performance monitoring systems
DELTAMON®	Change reporting system
AF/PERFORMER™	Automated performance manager
AF/OPERATOR®	Automation tool for system activities, including system start-up and shut-down, problem diagnoses, console management, and multisystem support
AF/REMOTE™	PC-based access to system hardware console
Data Base Management Tools	
DB2-WORKBENCH	Catalog manager
DB2-MIGRATOR	Sends DB2 applications from test to production, system to system
DB2-EXPLAIN	Isolates and analyzes resource hungry SQL and recommends solutions
DB2-SMU	Verifies data base integrity, on-line page repair of table spaces and indexes, and space management functions
DB2-SPACEMAN	Manages table spaces and indexes
DB2-DASD	Reclaims wasted DASD without compression and automatically generates utilities to move data sets
SQL/DS VM WORKBENCH	Catalog and data base management for SQL/DS running under VM
User Productivity Products	
CL/SUPERSESSION®	Network-user and application integration tool for tailoring applications and multiple session support without affecting source code.
CL/GATEWAY® for IMS	Single-point access to multihost, multi-application IMS/DC installations
CL/CONFERENCE™	On-line application conferencing tool

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AF/OPERATOR, for automated operations; and
AF/REMOTE, for remote access and control.

- Over 500 clients have licensed OMEGACENTER.

OMEGAMON Performance Pacs™, introduced in early 1990, combine OMEGAMON performance monitors with tools to manage data center service and availability.

- OMEGAMON Performance Pacs are available for MVS, CICS, IMS, DB2, VM, CICS/VSE, and VTAM operating systems.

- Features include degradation analysis, response time analysis, historical information and analysis, exception-based reporting, and CUA compliance.

Candle's data base management tools, acquired in early 1990, offer support for the consistent management of the entire DB2 life cycle - from design and development through implementation, administration, management, and change.

Candle Education offers a host of education conferences and classes dealing with system performance, design, tuning, and management, and provides associated consulting services.

- Of Candle Education's revenue, 90% was derived from education services and 10% was derived from consulting services.

- Classes are offered at a variety of locations and times. Classes may also be scheduled at the client's site. Prices vary by class.

Industry Markets

Candle's revenue is derived from across industry sectors.

More than 75% of the Fortune 500 companies use Candle products.

Geographic Markets

Approximately 50% ($75.6 million) of Candle's 1990 revenue was derived from the U.S. and 50% ($75.8 million) from international sources.

Candle's products are licensed extensively in the U.S. and in over 30 countries worldwide.

- U.S. offices are located in Atlanta (GA); Boston (MA); Chicago (IL); Cincinnati (OH); Dallas and Houston (TX); Detroit (MI); Larkspur, Irvine, Marina del Rey, and San Jose (CA); McLean (VA); and New York City and White Plains (NY).

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During 1990, Candle invested aggressively in its field support and sales organizations, including establishing a new subsidiary in Japan. Candle now sells products in 14 countries worldwide, with a network of agents in 12 other countries to provide complete coverage across Europe, South America, Asia, and the Middle East.

- International offices are located in the U.K., France, Germany, Sweden, the Netherlands, Hong Kong, Singapore, Malaysia, Australia, and Japan.
- International distributors are located in Argentina, Austria, Brazil, Israel, Italy, Korea, Mexico, Portugal, Saudi Arabia, Spain, Taiwan, Turkey, and Venezuela.

Computer Hardware and Software

Candle has the following computers installed at its data center in Los Angeles:

- 2 IBM 3090, VM/MVS/DOS
- 1 IBM 4341, MVS
- 1 Amdahl V8, MVS

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CANDLE CORPORATION
1999 Bundy Drive
Los Angeles, CA 90025
(213) 207-1400

Aubrey Chernick, Chairman and CEO
Merritt Lutz, President and COO
Private Corporation
Total Employees: 1,000 (10/90)
Total Revenue, Fiscal Year End
12/31/89: $128,100,000

The Company

Candle Corporation, founded in 1977, develops, markets, and supports systems management software for IBM mainframe operating systems. The company's initial product, OMEGAMON[R] for MVS, was the first performance monitor for IBM's MVS operating system. Candle also offers system automation, application integration, and data base management tools.

- In May 1990, Candle completed the acquisition of six DB2 data base management products from CDB Software, Inc. of Houston (TX). Under the terms of the agreement, Candle and CDB Software will jointly develop new products and maintain the current DB2 products. Candle is responsible for worldwide distribution and customer support for the acquired products.

- In September 1990, Candle announced its intention to fully support IBM's System View, System/390, and ES/9000. Candle is an IBM Business Partner and an Application Specialist.

Candle's 1989 revenue reached $128.1 million, a 28% increase over 1988 revenue of $100.3 million. A four-year revenue summary follows:

CANDLE CORPORATION
FOUR-YEAR REVENUE SUMMARY
($ millions)

	FISCAL YEAR			
ITEM	1989	1988	1987	1986
Revenue	$128.1	$100.3	$82.0*	$71.0*
• Percent increase from previous year	28%	22%	15%	18%

** INPUT estimates*

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Candle management attributes growth to increased international sales and an overall increase in sales volume.

As of December 31, 1989, Candle had approximately 850 employees. The company currently has about 1,000 employees, of which 775 are employed in the U.S.

Candle's primary competitors include IBM, Boole & Babbage, Landmark Systems Corporation, Goal Systems International Incorporated, Computer Associates, and LEGENT Corporation.

Key Products and Services

Virtually all of Candle's 1989 revenue was derived from software products and associated maintenance services. It is estimated less than 2% was derived from education and training and consulting services.

Candle's systems software products are summarized in the exhibit.

OMEGAMON, the company's first product, is a real-time system monitoring package that searches for hardware or software problems.

- OMEGAMON performance monitors are currently available for MVS, IMS, CICS, DB2, VM, VSE, and VTAM operating systems. There are over 11,850 OMEGAMON licenses worldwide.
- OMEGAMON II for MVS, introduced in 1990, is designed for multiple users in the data center. Information is presented using status indicators through CUA-compliant screens.
- OMEGAMON II for VTAM is a performance monitor for VTAM.

OMEGACENTER™, introduced in 1989, is an integrated, enterprise-wide software system for data center management. The system is designed to simplify performance management through early detection of problems, in-depth analysis, automation, and remote control.

- OMEAGACENTER is comprised of: OMEGAVIEW™, for displaying system conditions and status for MVS, CICS, IMS, DB2, VM, and VTAM operating systems; OMEGAMON performance monitors for realtime analysis; AF/PERFORMER, for automated performance management; AF/OPERATOR, for automated operations; and AF/REMOTE, for remote access and control.

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EXHIBIT

CANDLE CORPORATION SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION
OMEGAMON®	Performance monitor
OMEGAMON II for MVS	CUA-compliant performance monitor for MVS
OMEGAMON II for VTAM	Performance monitor for VTAM
OMEGACENTER™	Integrated systems management product
OMEGAVIEW™	Advanced status management system
OMEGAMON® Performance Pacs™	Performance monitoring systems
DELTAMON®	Change reporting system
AF/PERFORMER™	Automated performance manager
AF/OPERATOR®	Automation tool for system activities, including system start-up and shut-down, problem diagnoses, console management, and multi-system support
AF/REMOTE™	PC-based access to system hardware console
Data Base Management Tools	
DB2-WORKBENCH	Catalog manager
DB2-MIGRATOR	Sends DB2 applications from test to production, system to system
DB2-EXPLAIN	Isolates and analyzes resource hungry SQL and recommends solutions
DB2-SMU	Verifies data base integrity, on-line page repair of table spaces and indexes,and space management functions
DB2-SPACEMAN	Manages table spaces and indexes
DB2-DASD	Reclaims wasted DASD without compression and automatically generates utilities to move data sets
SQL/DS VM WORKBENCH	Catalog and data base management for SQL/DS running under VM
User Productivity Products	
CL/SUPERSESSION®	Network-user and application integration tool for tailoring applications and multiple session support without affecting source code.
CL/GATEWAY® for IMS	Single-point access to multihost, multi-application IMS/DC installations
CL/CONFERENCE™	On-line application conferencing tool

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- Over 225 clients have licensed OMEGACENTER.

OMEGAMON Performance Pacs™, introduced in early 1990, combine OMEGAMON performance monitors with tools to manage data center service and availability.

- OMEGAMON Performance Pacs are available for MVS, CICS, IMS, DB2, VM, CICS/VSE, and VTAM operating systems.

- Features include degradation analysis, response time analysis, historical information and analysis, exception-based reporting, and CUA compliance.

Candle's data base management tools, acquired in early 1990, offer support for the consistent management of the entire DB2 life cycle--from design and development through implementation, administration, management, and change.

Candle Education offers a host of education conferences and classes dealing with system performance, design, tuning, and management, and provides associated consulting services.

- Of Candle Education's revenue, 90% was derived from education services and 10% was derived from consulting services.

- Classes are offered at a variety of locations and times. Classes may also be scheduled at the client's site. Prices vary by class.

Industry Markets

Candle's revenue is derived from across industry sectors.

More than 75% of the Fortune 500 companies use Candle products.

Geographic Markets

Approximately 63% ($80.8 million) of Candle's 1989 revenue was derived from the U.S. and 37% ($47.3 million) from international sources.

Candle's products are licensed extensively in the U.S. and in over 30 countries worldwide.

- U.S. offices are located in Atlanta (GA); Boston (MA); Chicago (IL); Cincinnati (OH); Dallas and Houston (TX); Larkspur, Irvine, Marina del Rey, and San Jose (CA); McLean (VA); and New York City and White Plains (NY).

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- International offices are located in the U.K., France, Germany, Sweden, Hong Kong, Singapore, Australia, and Japan.
- International distributors are located in Argentina, Austria, Brazil, Israel, Italy, Korea, Mexico, Portugal, Saudi Arabia, Spain, Taiwan, Turkey, and Venezuela.

Computer Hardware and Software

Candle has the following computers installed at its data center in Los Angeles:

- 2 IBM 3090, VM/MVS/DOS
- 1 IBM 4341, MVS
- 1 Amdahl V8, MVS

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CANDLE CORPORATION
1999 Bundy Drive
Los Angeles, CA 90025
(213) 207-1400

Aubrey Chernick, President
Private Corporation
Total Employees: 750
Total Revenue, Fiscal Year End
12/31/88: $100,300,000

The Company

Candle Corporation, founded in 1977, develops, markets, and supports performance monitoring and automated operations systems software products for IBM and compatible mainframes. The company specializes in performance management and end-user and operator productivity software and education.

Candle's 1988 revenue reached $100.3 million, a 22% increase over 1987 revenue of $82 million. A three-year revenue summary follows:

CANDLE CORPORATION
THREE-YEAR REVENUE SUMMARY
($ millions)

	FISCAL YEAR		
ITEM	1988	1987	1986
Revenue	$100.3	$82.0*	$71.0*
• Percent increase from previous year	22%	15%	18%

** Revenue figures are INPUT estimates.*

Candle management attributes growth to increased international sales and an overall increase in sales volume.

Candle operates two business divisions as follows:

- The Computer Services Division develops, markets, and supports Candle's proprietary performance monitoring, and data center management (automation and network) software products.
 - The Computer Services Division contributed approximately

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96% ($96 million) to Candle's 1988 revenue, an increase of 23% over 1987 revenue of approximately $78 million.

- Candle Education provides education and consulting services in performance operations, data center management, IBM systems and subsystems, and product education.
 - Candle Education contributed approximately 4% ($4 million) to Candle's 1988 revenue.

As of December 31, 1988, Candle employed 750 people, of which 600 were employed in the U.S.

Candle's primary competitors include IBM, Boole & Babbage, Landmark Systems Corporation, Goal Systems International Incorporated, Applied Data Research, and Morino Associates.

Key Products and Services

Candle's first product, OMEGAMON®, is a real-time system monitoring package that searches for hardware or software problems.

- OMEGAMON enables data center operations personnel, as well as systems programmers, to be alerted to possible software/hardware bottlenecks that could impact operations and performance of the total system.
- Real-time monitoring is performed either on a dedicated IBM 3270, or under TSO. OMEGAMON runs as an application program using TCAM or VTAM to communicate to local 3270 terminals.
- Versions of OMEGAMON are available for MVS/XA, MVS/370, IMS, VM/SP, VM/HPO, VM/XA SF, and CICS under MVS and DOS/VSE.
- Options available for OMEGAMON include DEXAN®, RTA™, and ESRA™.
 - DEXAN (Degradation Exception Analyzer), automatically analyzes the bottlenecks causing degraded response time and quantifies their impact in order to minimize overhead. This subsystem simplifies and speeds the diagnosis of performance problems by sampling the causes of performance degradation at user-specified intervals. DEXAN is available for MVS/XA, MVS/370, IMS.
 - RTA™ (Response Time Analyzer), provides real-time

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output of response time in both numeric and graphic form via a 3270 terminal. An exception capability detects and warns of unacceptable response times for high priority transactions. RTA is available for IMS, and CICS under MVS and VSE.

- ESRA™/CICS is a CICS performance monitor that recognizes when CICS transactions are having response time problems and automatically invokes a detailed report showing poor response times and their causes.

EPILOG®, an installation performance monitoring system, continuously monitors critical data regarding hardware, operating systems, and applications software, and aids in implementing IMS, CICS, or MVS tuning.

- EPILOG provides periodic data on response, degradation, and resource utilization statistics. The information is stored in a data base for historical record keeping.

- EPILOG can be used to analyze transaction response times; to recognize poor response times and identify major bottlenecks; to analyze resources associated with bottlenecks to pinpoint the component needing attention; and to quantitatively evaluate the effectiveness of planned measures taken to correct bottlenecks.

DELTAMON™, a companion product to EPILOG, tracks and reports data on changes in hardware, systems software, data sets, operational procedures, and JES.

- DELTAMON aids in performing: change verification to determine if and when planned changes were actually implemented; change detection if accidental, unauthorized, or unplanned changes have been made (when used with EPILOG); and integration of change analysis to determine the performance impact on hardware and software changes (when used with EPILOG).

CandleLight™, the newest family of software products, is designed to increase on-line productivity through improvements to the network user interface.

- CL/SUPERSESSION™ is a multisession manager that provides a quick and easy way to access and switch between VTAM-based applications on MVS, VM, or VSE hosts, and allows application integration.

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- CL/GATEWAY™ for MVS is designed to replace traditional ACF/VTAM logon procedures with a series of user friendly menus.

- CL/CONFERENCE™ is an on-line application conferencing tool that allows terminal users at different locations to view the same on-line application simultaneously.

Candle has recently introduced the AF family of products designed to automate facilities management functions.

- AF/Operator automates MVS console functions, and provides two-way communication to Omegamon monitors.

- AF/Remote is a PC tool which allows remote access to the system hardware console, and provides a graphic display of hardware status.

- AF/Notify allows AF/Operator to call DP staff at home or in remote locations over the telephone, and allows DP staff to take action via touch-tone telephone pads.

Candle Education offers a host of education conferences and classes dealing with system performance, design, tuning, and management, as well as consulting in these areas.

- Of Candle Education's revenue, 90% was derived from education services and 10% was derived from consulting services.

- Classes are offered at a variety of locations and times. Classes may also be scheduled for on-site locations. Prices vary by class.

- Candle believes its education services are an important strategic asset in that it increases the number of knowledgeable users of Candle products and allows Candle the opportunity to make product improvements based on student reactions and suggestions.

Industry Markets

Candle ranks, by revenue contribution, the industries it serves as follows:

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Banking and finance	1
Process manufacturing	2
Medical	3
Education	4
Insurance	5
Services	6
Federal government	7
Other industries	8

Candle estimates that 80% of its customers are Fortune 1000 customers.

Geographic Markets

Approximately 56% of Candle's 1988 revenue was derived from the U.S., 10% from Canada, and 34% from other foreign countries.

- Candle's North American operations, including Canada, grew by 14% from 1987 to 1988, while its operations abroad grew 42% from 1987 to 1988.

U.S. offices are located in Dallas; Atlanta; Chicago; Marina del Rey, Newport Beach, Los Angeles (2), and San Francisco (CA); and White Plains and New York City (NY).

Foreign offices are located in London, Munich, France, Germany, and Australia.

Computer Hardware and Software

Candle has the following computers installed at its data center in Los Angeles:

- 2 IBM 3090, VM/MVS/DOS
- 1 IBM 4341, MVS
- 1 Amdahl V8, MVS

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CANDLE CORPORATION
10880 Wilshire Boulevard
Suite 2404
Los Angeles, CA 90024
(213) 207-1400

Aubrey Chernick, President
Private Corporation
Total Employees: 525
Total Revenue, Fiscal Year End
12/31/85: $60,000,000*

THE COMPANY

- Candle Corporation, founded in California in 1977, develops, markets, and supports performance monitoring systems software products for IBM and plug-compatible mainframes. The company specializes in capacity management and user productivity software.

- INPUT estimates that Candle's 1985 revenue reached $60 million, a 58% increase over calendar revenue for 1984. During 1985 the company changed its fiscal year end from January 31 to December 31.

 - Candle management attributes the company's growth to the reputation of its established products, the acceptance of its new IMS and VM products, and the growth of on-line systems among its client prospects. They anticipate 1986 revenue will exceed $80 million.

- Candle has two divisions as follows:

 - The Computer Services Division develops, markets, and supports Candle's proprietary performance monitoring software products.

 - The Information Services Division develops software products for office automation and electronic mail systems.

- As of December 31, 1985 Candle had approximately 525 employees, segmented as follows:

Marketing/sales	139
Software services/customer support	63
Research and development	153
Computer operations	34
General and administrative	136
	525

- Candle's primary competitors include Boole & Babbage, Landmark Systems Corporation, and Goal Systems International Incorporated.

*INPUT estimate

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KEY PRODUCTS AND SERVICES

- One hundred percent of Candle's 1985 revenue was derived from systems software products and associated support services.
 - Approximately 81% was derived from product licenses, 12% from maintenance services, and 7% from client education and training.
- Candle markets and supports proprietary performance monitoring software products for real-time operating systems for IBM and plug-compatible mainframes.
 - The company's system software products are marketed to clients across industry sectors.
 - Candle's current product offerings are shown in the exhibit.
- Candle's first product, OMEGAMON®, introduced in 1976, is a real-time system monitoring package that searches for hardware or software problems. Over 4,800 OMEGAMON systems have been installed.
 - OMEGAMON enables data center operations personnel, as well as systems programmers, to be alerted to possible software/hardware bottlenecks that could impact operations and performance of the total system.
 - Real-time monitoring is performed on either a dedicated IBM 3270 terminal mode or under VTAM or TSO.
 - Versions of OMEGAMON are available for MVS, CICS, IMS, and VM environments.
- Other Candle software products include the following:
 - DEXAN® (Degradation Exception Analyzer), an optional extension to OMEGAMON, automatically analyzes the bottlenecks causing degraded response time and quantifies their impact in order to minimize overhead. This subsystem simplifies and speeds the diagnosis of performance problems by sampling the causes of performance degradation at user-specified intervals.
 - RTA T.M. (Response Time Analyzer), an extension to OMEGAMON, provides real-time output of response time in both numeric and graphic form via a 3270 terminal. An exception capability detects and warns of unacceptable response times for high priority transactions.
 - ESRA T.M. /CICS is a CICS performance monitor that recognizes when CICS transactions are having response time problems and automatically invokes a detailed report showing poor response times and their causes.

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EXHIBIT

CANDLE CORPORATION
SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION	YEAR INTRODUCED	NUMBER INSTALLED	PRICING*
• OMEGAMON®	REAL-TIME PERFORMANCE MONITORING SYSTEM			
– OMEGAMON/MVS		1976	2,238	$23,500
– OMEGAMON/MVS-XA		1983		$28,500
– OMEGAMON/CICS		1980	2,009	$23,500 - $25,000 (for DOS – $7,500)
– OMEGAMON/IMS		1982	288	$19,500
– OMEGAMON/VM		1984	303	HPO: $15,000 VM/SP: $7,500
• DEXAN®	DEGRADATION EXCEPTION ANALYZER			
– DEXAN/MVS		1980	1,334	$14,500
– DEXAN/MVS-XA		1983		$17,000
– DEXAN/IMS		1982	222	$19,500
• RTA™	RESPONSE TIME ANALYZER			
– RTA/CICS		1980	1,108	$9,500 - $10,500 (for DOS – $2,500)
– RTA/IMS		1983	106	$9,500
• ESRA™/CICS	PERFORMANCE MONITOR	1981	385	$13,500
• EPILOG®	INSTALLATION PERFORMANCE MONITORING SYSTEM			
– EPILOG/MVS		1982	280	$19,500
– EPILOG/IMS		1984	27	$13,500
• DELTAMON™/MVS	REPORTING SYSTEM	1984	59	$12,500
• CL/MENU	VTAM APPLICATION MENU FACILITY	1985	120	$7,500

*Volume discounts available.

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- EPILOG ® , an installation performance monitoring system, continuously monitors critical data regarding hardware, operating systems, and applications software, and aids in implementing IMS or MVS tuning.

 . EPILOG provides periodic data on response, degradation, and resource utilization statistics. The information is stored in a data base for historical recordkeeping.

 . EPILOG can be used to analyze transaction response times; to recognize poor response times and identify major bottlenecks; to analyze resources associated with bottlenecks to pinpoint the component needing attention; and to quantitatively evaluate the effectiveness of planned measures taken to correct bottlenecks.

- DELTAMON T.M. , a companion product to EPILOG, tracks and reports data on changes in hardware, systems software, data sets, operational procedures, and JES.

 . DELTAMON aids in performing: change verification to determine if and when planned changes were actually implemented; change detection if accidental, unauthorized, or unplanned changes have been made (when used with EPILOG); and integration of change analysis and performance analysis to determine the performance impact on hardware and software changes (when used with EPILOG).

- Candle is currently developing VM implementations of its products. OMEGAMON/VM was released in December 1984 and other VM products are scheduled for release by September 1986.

- In March 1985 Candle announced CandleLight T.M. , a new family of software products focusing on increased on-line productivity through improvements to the network user interface.

 - The products are marketed by the Information Systems Division.

 - The first product in this family, CL/MENU T.M. , is an application menu facility that replaces traditional IBM VTAM screens with menus.

- In June 1985 Candle introduced CandleSpace T.M. , a computerized telephone service that provides information on Candle's products and automates product literature requests.

- Candle's educational services include videotapes and seminars on performance management for MVS, CICS, IMS, and VM.

INDUSTRY MARKETS

- Candle derives its revenue from clients across industry sectors.

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GEOGRAPHIC MARKETS

- Approximately 75% of Candle's fiscal 1985 revenue was derived from the U.S. The remaining 25% was derived from Europe and Canada.
- U.S. offices are located in Cupertino, Marina del Rey, Newport Beach, Los Angeles (2), and San Francisco (CA); and Hartsdale and New York City (NY).
- Foreign offices are located in London, Munich, and Amsterdam

COMPUTER HARDWARE AND SOFTWARE

- Candle has the following computers installed at its data center in Los Angeles:
 - 1 IBM 3083, VM/MVS/DOS.
 - 1 IBM 4341, MVS.
 - 1 Amdahl V8, MVS.

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CANDLE CORPORATION
10880 Wilshire Boulevard
Suite 2404
Los Angeles, CA 90024
(213) 207-1400

Aubrey Chernick, President
Private Corporation
Total Employees: 525
Total Revenue, Fiscal Year End
12/31/85: $60,000,000*

THE COMPANY

- Candle Corporation, founded in California in 1977, develops, markets, and supports performance monitoring systems software products for IBM and plug-compatible mainframes. The company specializes in capacity management and user productivity software.

- INPUT estimates that Candle's 1985 revenue reached $60 million, a 58% increase over calendar revenue for 1984. During 1985 the company changed its fiscal year end from January 31 to December 31.

 - Candle management attributes the company's growth to the reputation of its established products, the acceptance of its new IMS and VM products, and the growth of on-line systems among its client prospects. They anticipate 1986 revenue will exceed $80 million.

- Candle has two divisions as follows:

 - The Computer Services Division develops, markets, and supports Candle's proprietary performance monitoring software products.

 - The Information Services Division develops software products for office automation and electronic mail systems.

- As of December 31, 1985 Candle had approximately 525 employees, segmented as follows:

Marketing/sales	139
Software services/customer support	63
Research and development	153
Computer operations	34
General and administrative	136
	525

- Candle's primary competitors include Boole & Babbage, Landmark Systems Corporation, and Goal Systems International Incorporated.

*INPUT estimate

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KEY PRODUCTS AND SERVICES

- One hundred percent of Candle's 1985 revenue was derived from systems software products and associated support services.
 - Approximately 81% was derived from product licenses, 12% from maintenance services, and 7% from client education and training.
- Candle markets and supports proprietary performance monitoring software products for real-time operating systems for IBM and plug-compatible mainframes.
 - The company's system software products are marketed to clients across industry sectors.
 - Candle's current product offerings are shown in the exhibit.
- Candle's first product, OMEGAMON®, introduced in 1976, is a real-time system monitoring package that searches for hardware or software problems. Over 4,800 OMEGAMON systems have been installed.
 - OMEGAMON enables data center operations personnel, as well as systems programmers, to be alerted to possible software/hardware bottlenecks that could impact operations and performance of the total system.
 - Real-time monitoring is performed on either a dedicated IBM 3270 terminal mode or under VTAM or TSO.
 - Versions of OMEGAMON are available for MVS, CICS, IMS, and VM environments.
- Other Candle software products include the following:
 - DEXAN® (Degradation Exception Analyzer), an optional extension to OMEGAMON, automatically analyzes the bottlenecks causing degraded response time and quantifies their impact in order to minimize overhead. This subsystem simplifies and speeds the diagnosis of performance problems by sampling the causes of performance degradation at user-specified intervals.
 - RTA T.M. (Response Time Analyzer), an extension to OMEGAMON, provides real-time output of response time in both numeric and graphic form via a 3270 terminal. An exception capability detects and warns of unacceptable response times for high priority transactions.
 - ESRA T.M. /CICS is a CICS performance monitor that recognizes when CICS transactions are having response time problems and automatically invokes a detailed report showing poor response times and their causes.

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EXHIBIT

CANDLE CORPORATION
SOFTWARE PRODUCTS

PRODUCT	DESCRIPTION	YEAR INTRODUCED	NUMBER INSTALLED	PRICING*
• OMEGAMON®	REAL-TIME PERFORMANCE MONITORING SYSTEM			
– OMEGAMON/MVS		1976	2,238	$23,500
– OMEGAMON/MVS-XA		1983		$28,500
– OMEGAMON/CICS		1980	2,009	$23,500 - $25,000 (for DOS – $7,500)
– OMEGAMON/IMS		1982	288	$19,500
– OMEGAMON/VM		1984	303	HPO: $15,000 VM/SP: $7,500
• DEXAN®	DEGRADATION EXCEPTION ANALYZER			
– DEXAN/MVS		1980	1,334	$14,500
– DEXAN/MVS-XA		1983		$17,000
– DEXAN/IMS		1982	222	$19,500
• RTA™	RESPONSE TIME ANALYZER			
– RTA/CICS		1980	1,108	$9,500 - $10,500 (for DOS – $2,500)
– RTA/IMS		1983	106	$9,500
• ESRA™/CICS	PERFORMANCE MONITOR	1981	385	$13,500
• EPILOG®	INSTALLATION PERFORMANCE MONITORING SYSTEM			
– EPILOG/MVS		1982	280	$19,500
– EPILOG/IMS		1984	27	$13,500
• DELTAMON™/MVS	REPORTING SYSTEM	1984	59	$12,500
• CL/MENU	VTAM APPLICATION MENU FACILITY	1985	120	$7,500

*Volume discounts available.

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- EPILOG ® , an installation performance monitoring system, continuously monitors critical data regarding hardware, operating systems, and applications software, and aids in implementing IMS or MVS tuning.

 . EPILOG provides periodic data on response, degradation, and resource utilization statistics. The information is stored in a data base for historical recordkeeping.

 . EPILOG can be used to analyze transaction response times; to recognize poor response times and identify major bottlenecks; to analyze resources associated with bottlenecks to pinpoint the component needing attention; and to quantitatively evaluate the effectiveness of planned measures taken to correct bottlenecks.

- DELTAMON T.M. , a companion product to EPILOG, tracks and reports data on changes in hardware, systems software, data sets, operational procedures, and JES.

 . DELTAMON aids in performing: change verification to determine if and when planned changes were actually implemented; change detection if accidental, unauthorized, or unplanned changes have been made (when used with EPILOG); and integration of change analysis and performance analysis to determine the performance impact on hardware and software changes (when used with EPILOG).

- Candle is currently developing VM implementations of its products. OMEGAMON/VM was released in December 1984 and other VM products are scheduled for release by September 1986.

- In March 1985 Candle announced CandleLight T.M. , a new family of software products focusing on increased on-line productivity through improvements to the network user interface.

 - The products are marketed by the Information Systems Division.

 - The first product in this family, CL/MENU T.M. , is an application menu facility that replaces traditional IBM VTAM screens with menus.

- In June 1985 Candle introduced CandleSpace T.M. , a computerized telephone service that provides information on Candle's products and automates product literature requests.

- Candle's educational services include videotapes and seminars on performance management for MVS, CICS, IMS, and VM.

INDUSTRY MARKETS

- Candle derives its revenue from clients across industry sectors.

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GEOGRAPHIC MARKETS

- Approximately 75% of Candle's fiscal 1985 revenue was derived from the U.S. The remaining 25% was derived from Europe and Canada.
- U.S. offices are located in Cupertino, Marina del Rey, Newport Beach, Los Angeles (2), and San Francisco (CA); and Hartsdale and New York City (NY).
- Foreign offices are located in London, Munich, and Amsterdam

COMPUTER HARDWARE AND SOFTWARE

- Candle has the following computers installed at its data center in Los Angeles:
 - 1 IBM 3083, VM/MVS/DOS.
 - 1 IBM 4341, MVS.
 - 1 Amdahl V8, MVS.

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COMPANY PROFILE

CANDLE CORPORATION
10880 Wilshire Boulevard
Suite 2404
Los Angeles, CA 90024
(213) 207-1400

Aubrey Chernick, President
Private Corporation
Total Employees: 400
Total Revenue, Fiscal Year End
1/31/85: $50,000,000*

THE COMPANY

- Candle Corporation, founded in California in 1977, develops, markets, and supports performance monitoring systems software products for IBM and plug-compatible mainframes.

- INPUT estimates fiscal 1985 revenue reached $50 million, a 67% increase over fiscal 1984 revenue estimates of $30 million.

 - Candle management attributes the company's growth to the reputation of its established products, the acceptance of its new IMS and VM products, and the growth of on-line systems among its client prospects. They anticipate fiscal 1986 revenue to reach $80 million.

- Candle has two divisions as follows:

 - The Computer Services Division develops, markets, and supports Candle's proprietary performance monitoring software products.

 - The Information Services Division is developing software products for office automation and electronic mail systems. Initial product introductions are scheduled for April 1985.

- As of January 31, 1985 Candle had approximately 400 employees, segmented as follows:

Marketing/sales	70
Software services/customer support	37
Research and development	80
Computer operations	20
General and administrative	80
	400

- Candle's primary competitors include Boole & Babbage and Landmark Systems Corporation.

*INPUT estimate

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KEY PRODUCTS AND SERVICES

- One hundred percent of Candle's fiscal 1985 revenue was derived from systems software products and associated support services.
 - Approximately 81% was derived from product licenses, 12% from maintenance services, and 7% from client education and training.
- Candle markets and supports proprietary performance monitoring software products for real-time operating systems for IBM and plug-compatible mainframes.
 - The company's system software products are marketed to clients across industry sectors.
 - Candle's current product offerings are shown in the exhibit.
- Candle's first product, OMEGAMON®, introduced in 1976, is a real-time system monitoring package that searches for hardware or software problems. Over 3,500 OMEGAMON systems have been installed.
 - OMEGAMON enables data center operations personnel, as well as systems programmers, to be alerted to possible software/hardware bottlenecks that could impact operations and performance of the total system.
 - Real-time monitoring is performed on either a dedicated IBM 3270 terminal mode or under VTAM or TSO.
 - Versions of OMEGAMON are available for MVS, CICS, IMS, and VM environments.
- Other Candle software products include the following:
 - DEXAN® (Degradation Exception Analyzer), an optional extension to OMEGAMON, automatically analyzes the bottlenecks causing degraded response time and quantifies their impact in order to minimize overhead. This subsystem simplifies and speeds the diagnosis of performance problems by sampling the causes of performance degradation at user-specified intervals.
 - RTA T.M. (Response Time Analyzer), an extension to OMEGAMON, provides real-time output of response time in both numeric and graphic form via a 3270 terminal. An exception capability detects and warns of unacceptable response times for high priority transactions.
 - ESRA T.M. /CICS is a CICS performance monitor that recognizes when CICS transactions are having response time problems and automatically invokes a detailed report showing poor response times and their causes.

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EXHIBIT

CANDLE CORPORATION
SOFTWARE PRODUCTS

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– OMEGAMON/MVS-XA		1983		$28,500
– OMEGAMON/CICS		1980	1,200	$23,500 - $25,000 (for DOS – $7,500)
– OMEGAMON/IMS		1982	250	$19,500
– OMEGAMON/VM		1984	40	HPO: $15,000 VM/SP: $7,500
• DEXAN®	DEGRADATION EXCEPTION ANALYZER			
– DEXAN/MVS		1980	1,500	$14,500
– DEXAN/MVS-XA		1983		$17,000
– DEXAN/IMS		1982	250	$19,500
• RTA$^{T.M.}$	RESPONSE TIME ANALYZER			
– RTA/CICS		1980	1,000	$9,500 - $10,500 (for DOS – $2,500)
– RTA/IMS		1983	150	$9,500
• ESRA$^{T.M.}$/CICS	PERFORMANCE MONITOR	1981	500	$13,500
• EPILOG®	INSTALLATION PERFORMANCE MONITORING SYSTEM			
– EPILOG/MVS		1982	250	$19,500
– EPILOG/IMS		1984	6	$13,500
• DELTAMON$^{T.M.}$/MVS	REPORTING SYSTEM	1984	12	$12,500
• CL/MENU	VTAM APPLICATION MENU FACILITY	1985	NEW	$7,500

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